

AMERICAN CINEMATOGRAPHER

FOR AMATEUR AND PROFESSIONAL PHOTOGRAPHERS

January 1940

25c

Foreign 35c
Published in Hollywood by
American Society of
Cinematographers

Amateurs Lead in
1939's Progress
STULL

Paul Does Big Job
SPRUNGMAN

Studyina Photoelectric
Meterina
NORWOOD

DuPont's Superior II
Fast
MOYSE

Mountain Authority
Makes Feature
NELSON

Composition Is Simple
—Perhaps
SHERLOCK

Making Modern Matte
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HASKIN

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AMERICAN CINEMATOPHOTOGRAPHER

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CONTENTS

Party gets rough	6
By George Blandell	
St. Paul Club does big job producing School Police	7
By Orval L. Springsteen	
Camera technique dominates filming results	11
By Claude W. Cadavette	
Gerstein's records Pendleton's radio thrills	12
Philadelphia's cinema goes back a great time	14
By B. N. Levene	
Artistic progress in 1939 exceeded professional	16
By William Hall, A.S.C.	
Studying photoelectric exposures metering	18
By Captain Don Norwood	
DuPont's Superior II combines speed, fine grain, wide latitude	22
By Hollis W. Hayes	
Maintain authority complete color feature	25
By Clifford Nelson	
Composition is simple—perhaps—but very important	27
By James A. Sherlock	
Making modern movie shots	29
By Byron Haskin, A.S.C.	
Van Kesteren makes pictorial diary of prewar Europe	32
By George Blandell	
Non-theatrical group denies theatre demand	34
Obtaining increased illumination for the grain film recording	36
By O. L. Dyer and John K. Hiltard	
Simple changes improve camera equipment	38
By Edward Kearns	

Front Cover

Is the "2,000,000 B.C." set at the Hal Roach studio in Culver City, Norbert Brodine, A.S.C., at left and David Wark Griffith, producer of the picture, at right, listen to Hal Roach, director discuss a scene in the picture.

It is doubtful if in the entire history of the moving picture industry there ever has been a confluence paralleling this one. The owner of the studio, Hal Roach, directs the production, just as in former days he had directed. Thus, in the shifting responsibilities of management he had retired temporarily from directing. D. W. Griffith, who in the earlier days of the industry had as a director left his mark on the history of picturemaking, is the producer.



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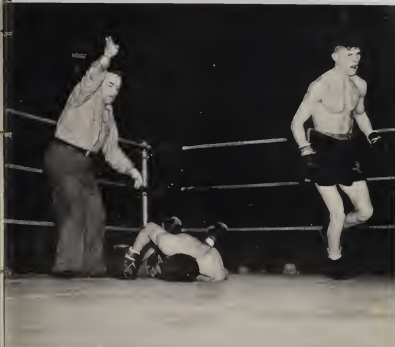
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PARTY GETS ROUGH

By GEORGE BLAISDELL

THERE was mention in the December issue of *Cinecinegrapher* about the hit made at the preview of Paramount's "The Great Victor Herbert." The magazine forms were looked up and sent to the pressroom before the preview started, but so unusual were the evidences of enthusiasm on the part of the house—and a press preview house can be reckoned as a pretty tough nut to crack—that it was determined to break into one of these forms on the morning following if its run were still unstarred and briefly tell about the show. The chance was found and the insertion was made.

You may have heard of a theatre applause being so mingled with that coming from the screen it is not possible to identify or segregate the house and the screen handclapping. That happened at the Cortinas that night, and not only but several times. As a rule manifestation of approval by the make-believe house is sufficient to deter a like demonstration on the part of the actual house, but it was not as at that preview. The persons who physically were present were determined to show their appreciation regardless of what the screen house may have done.

It is to be regretted that of the millions who see and hear the picture no one will have a list of the Herbert music, as did those at the preview—something over twenty pieces of music and songs as well as the "burlesque" medleys—continuous eight songs from seven operettas. Of course the number stated is merely the Herbert songs used.

It was a delightful, an enjoyable evening. The peak of Victor Herbert's success was described as from 1910 to 1914, of his activities, that is. He died suddenly in 1934. So in a measure the older the auditor the keener the enthusiasm.

Suzannah Foster, the fourteen-year old marvel, sang the last note heard in the picture—a B flat above High C. Suzannah is said to be one of the first singers to sing "Kiss Me Again" since Fritz Schell introduced the song.

THAT was a notable or at least a historic house at Pantages the night following that at the Cortinas. Maxine Dietrich made her first appearance in Hollywood for some time in "Destiny Rides Again," a Universal picture. The preview program prepared for the occasion was planned in the grandiose manner of the last one. This did it end printed on paper quite rough.

"Universal Pictures Company presents

an Advance Exhibition for the ladies and gentlemen of the press. An Extravaganza Bill. Two Distinguished Performers: Maxine Dietrich and James Stewart in a soul-stirring photo-drama entitled "Destiny Rides Again." Directed by the Excellent Mr. George Marshall. Produced by the Renowned Mr. Joe Pasternak. Tuesday evening November 28, 1935. Pantages Theatre. Located in Hollywood."

It is not likely there ever before was a Frenchy like of Maxine. Nor for that matter was there ever a deputy sheriff like of James Stewart. Indeed they were quite different, the one from the other. Yet both were likable, very much so, to the house from the start and to each other from pretty near the start.

Since the actual showing of the picture some unusual hand took a line out of the show that was good for a laugh, and then some. With the program and they didn't reach the line in time to cut it down the preview night.

Maxine was playing poker with one of the callers. She was the winner of a bit of gold. It was handed to her quietly and unobtrusively she did the gold into her bosom, as that was quite open, in accordance with the decorative center of the house, at least, the lady seemed to be out. One of the bystanders, innocent or otherwise, roared as ingeniously as a snoring don.

"Now, that's gold in them there hills!" Everybody out front seen to be the move and to hear the wisecrack, because the reaction was like unto a thunderclap.

The remark was in the mood and the character of the incident and the place, of the last presence of Shakespeare's Falstaff—not of the gross comical snugg of Dickens' Pecksniff of several centuries later.

THE Southern California Film Society's program for December 8, 9 and 10 included Charlie Chaplin's "Burlesque on Carmen" and as well the first and the last reels of "Modern Times." Of the latter picture the announcement stated it had been withdrawn from commercial circulation on account of its covering "The Dictator." That "withdrawn" is only temporary, you may be sure.

In the final reel of "Modern Times" the comedian does a dance that will be just as apolitic as may be the film that bears its name. Perhaps nothing Chaplin has done in all the years will match the dance for sheer artistry. Chaplin also sings a song that trails along with the steps. He really sings it, too. There

is no ghost here. There could hardly be for that matter. It was too funny for any other than Chaplin himself.

One man who went through all of "Carmen" with practically a dead pan because uncontrollable once the comedian started as his dance. Show business's familiar old expression of "billy laugh" utterly failed to describe his predicament. Required would be some term applicable to the entire anatomy at least.

The writer thinks of nothing off hand that would more certainly insure the increasing success of the new Dictator parody than the inclusion of a dance sequence, staged with all the grave pomposity and fopishness of the Hitlerian presence.

AT the new Academy Review Theatre at the opening of December the Southern California Film Society screened the French production of "Le Masque," with subtitles in English. There probably will be no other public or semi-public screening. This is to be regretted. It is a delightful subject as it is presented, even with the dialogue in French and the titles in English.

M-G-M has purchased the picture, the English title to which is "Forty Little Mothers," and will remake it in English with Eddie Cantor in the lead. It is a procedure somewhat out of the usual. An American company sees the French picture, likes it, believes it can improve it or at least equal it, and removes from the market the original picture.

As said, it is a delightful subject. The interest centers very much on a teacher who will window washer or something, handicapped, shall we say, by an excellent education. In any event, it is a possession of his, and after he goes to the front in the interest of a founding which landed in his arms instead of the intended skirt of a father his luck turns and he is placed as a teacher of a girl's school.

The teacher is not popular with his pupils, or isn't anyway until it comes out that he is the bachelor father of an infant and trying to hide the presence of that infant in the school. The girls come to the rescue, of the teacher and the baby boy.

The reversal of the girls' opinion is most pronounced. They are as militantly on the teacher's side as formerly they were not. When the presence of the boy is discovered by the proprietress—to her horror, I fancy, the teacher told her as apolitic he was a backbite—the teacher is summoned and fired. The girls stage a screaming sit-down strike.

(Continued on Page 48)

St. Paul Club Does Big Job Producing 'School Police'

The story behind the filming of 'Barbary Ship, Out,' 730-foot Kelschreene feature produced in the interests of safety by the St. Paul Amateur Movie Makers' Club

As told to Donald L. Springmann

From Kelschreene frames enlarged by the writer



NOT unlike every other big city, St. Paul has done its share of hard-scratching, trying to figure out efficient ways of preserving the lives of school children at dangerous street intersections. In fact, officials learned that no less than 54,000,000 school crossings were made each year by grade and parochial school children in Minnesota's capital city alone.

And so it remained for one Sister M. Carmela, parochial school principal, to offer a suggestion which caught on immediately and has since spread to every sizable town in the country.

In 1921 the school police system was inaugurated locally in an effort to prevent accidents near schools. Selected youths from each school, 12 years of age or older, donned belts and pouches, guarding each street intersection, halting traffic with portable STOP signs whenever children gathered to cross on routes to or returning from school.

Of course there was opposition at first from a few adults who refused to take orders from traffic directing youngsters that when a definite decrease in accidents was noted, the public came through with wholehearted support.

In the last eighteen years St. Paul recorded only one child fatality under its school police system, and in the record year of 1938 not even a single injury.

A year ago last June, Chief of Police Clifton A. Blackett approached members of the St. Paul Amateur Movie Makers' Club. "We need a documentary film," he pointed out. "Something that will unfold the history and show the present activities of our young traffic aids. And we want it in color."

Chief Tells 'Em

These civic-minded moviemakers needed no further instructions, for, six months before, under leadership of past President Art Olson, the club had prepared another 16mm departmental feature, "Spare the Evidence," which 604-foot black and white film taught rookie police how evidence found in crime cases might be preserved.

Except for retakes, it was miraculously shot in a single day. Many duplicates are now in circulation, are being used by the Kansas City police force, while another rests in the files of the Federal Bureau of Investigation.

It was agreed of course that all film, titles and materials would be either furnished by the department or donated, and that the club and its members would provide the necessary labor as well as the artistic touch.

"It was a bigger job than we had bargained for," Club President Ken Reassembled admitted. "First, a scenario committee of five and a camera com-

mittee of four were appointed. We held club discussions on several occasions to get new ideas and shots, and then we were ready to unfold our plans."

First Assignment

All members were urged to help, and though there was no competition, the response was encouraging. Hazelwood acted as director. Since the filming was to be done exclusively in 16mm, 35mm, enthusiasts cooperated in other ways by shooting 16mm stuff with borrowed equipment. Out of a club roster of 55, some 17 members took an active part in the preparation of the film.

The first big assignment was to cover the school police parade of June, 1938. Five cameramen went to work on the 1939 parade, scenes of both of which were later combined, and then followed the school police picnic and the election of chiefs.

The last big assignment was to cover the school police parade of June, 1938. Five cameramen went to work on the 1939 parade, scenes of both of which were later combined, and then followed the school police picnic and the election of chiefs.

With these main events well in hand the next job was to tie the shots together to give some semblance of a story, at the same time showing the

Barbara Steps Out



Double exposure main title of recent picture film was obtained by printing overprint on transparent material and was air brushed into background.

Miss Bentley (left) and Lucy Harrison, St. Paul movie-makers, are shown preparing to shoot the main title of special film.

Four club members at work on animation sequence, which required over 12,000 frames. Eight hours were needed to secure 1,666 frames which had a running time of little more than a minute.

Conferring on details of annual school police election. To give this children's great special feeling was used as explained in article.

program of the school police system. Those who were not shooting the parade set to work elsewhere staging scenes revealing the discussion of the original school police project, and fitting pertinent staff of a historical nature.

With children as the principal actors, six-year-old Barbara Johnson of St. Paul was selected to play the *foremost* lead. The male role was carried by six-year-old Tommy Benson, son of Lucy Harrison, St. Paul movie-maker whose workback budget for *Cine-Exits* was described in last month's *American Cinematographer*.

Natural Action Wanted

"At first we tried directing all the youngsters, telling them exactly what to do," Henselwood revealed. "Finally, this idea was abandoned and we tried shooting candid stuff with much more satisfaction."

"After all, we wanted the natural actions of children in everyday life, although it was necessary to work in some posed sequences. Fortunately, we had trouble with only one or two youngsters who tried to smart off before the camera lens, but their antics only landed them on the cutting room floor."

"Although we had lots of fun with the youngsters who really performed as well as professionals, still we had difficulty in keeping them away from our camera equipment during setups. Most juveniles seem to have a curious love for fagging things and poking their noses into lenses. We solved this problem by calling in an assistant cameraman whose job was simply to shoo off kids. Despite this, the school children and their police representatives cooperated splendidly."

Even the director's role was not without grief. In one scene, for instance, Director Henselwood wanted a couple youngsters to skip down the sidewalk in a natural manner.

No amount of talking would give the desired effect, so Henselwood himself stepped out before the lens to demonstrate the proper method of skipping—unhappily of a traffic-crowded street full of onlookers who chuckled at his antics.

Low Budget Controlled

At least a dozen different kinds of movie cameras were used to film the production, varying from Keystone, Fitas, Bolex and magazine jobs to the luxurious Cine-Special.

Working on a low budget the club had to cut corners on production expenses whenever possible, and retakes were made only where necessary and usually to fill up a sequence. Less than 2000 feet of Kodachrome were exposed to produce the completed 150-foot feature.

Fifty different camera setups were made with exterior and interior before the shooting schedule was over, the parades themselves being filmed from at least 20 different points. Amazing things were accomplished in the cutting room; for instance, when Minnesota's Governor Harold E. Stassen, killed in 1939, was shown applauding a drill formation actually photographed in 1938.

Some filming difficulties were encountered, despite the fact that exposure meters were used throughout. Strong winds and scattered clouds during outdoor filming necessitated frequent readings to keep exposures even.

Cold weather did not affect camera motor operation, according to Henselwood, but it was increasingly difficult to judge light on snowy days, avoiding the reflection of falling snow when exposing for the face or clothing.

Since considerable footage had to be exposed during one

Close-ups played an important part in the school police film. Here an officer is demonstrating school police in their most sensitive ability.

Typical street scenes of school children (masses of children) and protection at school police.

Producers and camera men, interesting subjects (children) and film.

It was said that the film, "School Police" (left) and "St. Paul's School Police" (right) were the most interesting of the school police film. The school police which followed actually were filmed 12 months before.

of St. Paul's highest authorities some trouble was experienced in keeping the snow out of the lenses. Artificial lights glowing in the midday blizzard lent an artistic flourish to the final street scenes.

Lighting Problem

Once when the temperature dropped to 10 degrees below zero, Ken rushed out with a borrowed heavy camera to get a closing of the season, reading to fit the snowfall footage. It was so cold, he admits, that he had difficulty in holding his tripod camera still for a shivery second or two.

One of the toughest problems in lighting was the illumination by photoflood of the entire auditorium of the Public Safety Building, under which roof the actual shooting at the school police chiefs was to be held. Five cameramen went off to cover the event after consulting lighting experts from the Northern States Power Company.

A special power line was run into the auditorium, and 15-number two photofloods were installed in ceiling fixtures. Six number four photofloods were used in special reflectors at shooting level, three being placed on each side of the room near the front to lighten the foreground.

A wide angle lens set at its widest aperture, f2.5, recorded the action. Even at that, some of the footage was slightly underexposed, and an f10 opening might have been better.

Lighting set ups were arranged several hours before the 600 children filed into the auditorium, and lights burned continuously throughout the three-hour session. Everything was as well handled dramatically that the school police conducted their regular meeting undisturbed by the activities of filming.

"During the whole course of filming, we wanted members to do everything possible to obey the law itself," President Hecubold said. "We didn't want members halted into court while we were engaged in producing a traffic safety film."

Filmer Arrested

"On one occasion, however, when a special filming unit of six, was called together to shoot animation, a tardy member sped down St. Paul streets a bit too recklessly to reach the meeting. Picked up by police for speeding, he was brought before traffic court and handed a suspended sentence."

In one sequence, producers wished to show in perspective a school traffic area, including streets, houses and school building to portray the movements of traffic and children in animation. The chief designer for the city architects who drew up an excellent color chart, 12 by 18 inches and 12 inch pasteboard vehicles and 2 1/2 inch structures were cut out for animation purposes.

Forty BB shot, flattened slightly by hammer whacking served as "school children."

The camera was mounted vertically shooting down on the chart, and as each individual frame was exposed a high-pitched clapping club member moved figures assigned to him with either his finger or a lead pencil.

No members spent each hour exposing 1,000 frames which last little more than a minute on the screen. No less than 12,000 individual moves of the first street scene traffic and children were necessary to furnish the animation.

Pasteboard Figures

Scene trees were shown in perspective; those pellets representing children were moved for six frames and set down



again on the other side to give the effect of walking under the trees. Later, on some trees, 10 pellets were placed on adhesive tape, cut to the width of the street walk, and the whole tape was advanced slowly.

When one cardboard figure performed a "toddler-walk" during a crucial moment of throwing of the entire exhibition, it was decided that metal would have been much better to work with than cardboard for the figures.

Animation filming was begun at four o'clock one afternoon, and the last movie was made just before midnight. The police department cooperated by sending up a duster to the persisting cameramen and animators in order that work might progress slowly but surely without interruption.

An Eastman Cine Special was used for short filming, and two number four photo-floods on a special line placed in front of the camera provided the right illumination for an 18-second film. Because of the excessive heat, lamps could not be used closer without discomfort to the workers.

Four different camera settings were employed, but in each case the lens remained at 18, the lights being moved to correspond with an identical meter reading.

Much Editing Necessary

While most of the work was done in the last month or two just before deadline, the biggest difficulty was trying to get the fellows together for groovy work at convenient hours.

In editing the lodge-podge footage, three men ran the projector, selecting scenes wanted and not wanted, and marking the film for the editors. So many different cameras were used to cover the events that it was difficult to work up sequences in their exact order and final polishing was necessary.

All body titles were filmed on blue positive stock by an eastern taping firm, but the introductory title, "Barbers Steps Out," was made in the monomaking workshop of the St. Paul club.

The hardest working was imported on a transparent, parchment like material, and this was placed over an air-brushed color background showing the State Capitol building to produce a double exposure effect in Kodachrome. At first Kodapak was tried, but it was found that the surface did not take cut quite so readily.

Music Helps

When the film was ready for projection, Henselwood and Harms worked out the musical background, employing some 14 recordings keyed to fit the mood and scene length. They found, for in-

stance, that music actually helped to carry the film story along, especially in sequences which were required to drag a bit. By altering music experimentally with much success showing, they were able to hit the perfect combination.

For the introduction, "Queen of Sheba" was played while "Spinning Song" and "Spring Song" figured in the lighter scenes. With the police band playing and the kale singing, a recording of "Star Spangled Banner" fit the sequence like sound-to-film. Lunt's "Les Preludes" added a nice touch in the closing scenes.

No credits made production even had such a distinguished list of guests at its premiere as the group which assembled on November 6, 1948, in the House Chambers of the State Capitol.

Governor Harold E. Stassen, Mayor William H. Fallon, other city and police officials including members of the St. Paul Safety Council and their guests, were in hand. Juvenile stars in the film itself as well as the men who produced the piece were spotlighted.

E. K. Baumann, chairman of the scene committee, made the acknowledgments. Food Marshall, club secretary, presented the reel to the Governor, who, in turn, formally handed it on to St. Paul's Mayor.

The Mayor gave it to Gus H. Barham, commissioner of public safety, who smilingly remarked that "if no one else wants the film, I want certainly am going to keep it."

Many Requests for Showing

But others do want the film. In fact, headquarters has been swamped with more than 110 requests for showings in little more than a fortnight.

With two productions already to their credit during the short existence of the St. Paul group, other organizations are querying these able movie makers on

showing films for private or public use at cost. But President Ken Henselwood, not so sure that his club wants to enter the commercial film field, explained:

"So called club project work usually falls on the shoulders of a few fellows in the organization who put in an enormous amount of time. In the future, we believe it will be better to accept club work as individual responsibility, and let the fellows who want to do go right ahead, the rest of the members cooperating if they wish to do so."

1940 Kodak Exhibit to be Shown in Thirty Centers

Amplified, broadened in scope, and designed for maximum appeal to the serious amateur photographer, the 1940 traveling exhibits of the Eastman Kodak Company will open its first showings in Boston January 10, to be followed by showings in more than thirty eastern and southern cities during the succeeding months.

Divided into four major sections—color, equipment, special displays, and lectures and demonstrations—the 1940 Kodak Exhibit includes:

"Parade of Color," made up of selected Kodachrome transparencies from the famous Cavalcade of Color at the 1939 fair exhibit screened two evenings with accompaniment of the original music and narrative; Kodachrome motion pictures of the New York World's Fair.

Discussion sessions on photography, based on the inexperienced camera owner and for the advanced technician.

Practical demonstrations of the Kodak Precision Enlarger, and color motion pictures showing that instrument's manifold applications; a model laboratory, completely equipped, with an expert demonstrator in attendance.



Several members of the St. Paul Amateur Movie Makers' Club conference with a group of their friends prior to members showing of their unique animal picture picture, "Whisper Steps Out." Back row (left to right): Lynn Danvers, James Eric Clements, Atkins, John Shaw. Front row (left to right): Kenneth Henselwood, president of the club, James Harms, technical advisor to the group, is seen at the far right.

CAMERA TECHNIQUE DOMINATES FILMING RESULTS

By Claude W. Goddard

Former Los Angeles News Clerk

THE manner in which a camera is handled during filming reflects the technique of the photographer. Any eye strain which may be produced by motion pictures is directly caused by the unsteadiness of action on the screen filmed by the careless amateur. It is well to remember that the movement in the camera finder is not as apparent as when the action appears on the screen.

A basic rule of cinematography is that the camera should be stationary and all actions in the scenes should provide the necessary movements.

As long as this is a definite rule we should abide by it unless we feel privileged to move the camera for some distinct action or effect. To relieve the repetition of eye-level shots, or to create a certain mood that may be desired, we can resort to another technique of making angle shots.

In straight ordinary filming the camera must be held firmly or placed on a solid support. Any wobble or motion of the camera is greatly exaggerated on the screen and causes a very uneasy picture that soon tires the eyes. By holding the camera against a tree or leaning against a post, you can steady yourself reasonably well, as often times a slight wobble will sway your body forcing you to wobble the camera.

Sometimes, when filming from a car, you can rest the camera on the door sill, but be sure to stop the motor to eliminate any vibration.

Solid Tripod

The amateur cameraman should have, as an essential part of his equipment, a well built and solid tripod. Any tripod with wobbly legs is useless, as a slight breeze will cause them to shake. A good tripod is equipped with reversible legs, having sharp points on one end for out-

door use and rubber capped ends for in door use.

The panoramic heads allow movements for the camera and facilitate the leveling and tilting action. The heads are constructed in such a manner that the lens can be pointed in any direction and securely locked. Steady panoramic shots can be made in a vertical or horizontal movement with perfect control.

If an up-and-down motion is discernible in a horizontal panorama, the results are very unpleasant. By rehearsing the pan shots before shooting, you can watch for any unsmoothness and check your legating and end composition of the scene.

Never pan in two directions in a single shot, unless you are following a specific action. Although this is not a steadfast rule, any variation of it must be carefully executed. An example of a variation of this rule would be the following of an aeroplane in stunt flight.

Panoramic shots must be slow, even and uniform. There is a limit of speed in which the camera can be moved to prevent the picture from jumping across the screen. According to the phenomenon of "persistence of vision," the eye retains the image of one frame until the next frame is flashed on the screen.

Watch Panoramic Shots

If the movement of an object is not too great between frames the action is smooth, but if the camera is moved fast the distance acrosses in each succeeding frame, giving the picture a jerky effect, and the action is not normal.

This is perceptible in fast panoramic shots, where you see the background leap across the screen. Your eye can not follow it and the whole shot is worthless. It is also evident in follow shots where you are filming action in

the foreground and the background blurs on the screen.

To avoid this, film this type of action at an oblique angle. You would not place the camera so that a train would pass directly across the line of vision, as the train moves too fast, resulting in a streak across the screen.

However, by shooting at an angle of less than 45 degrees, the train remains in the frame longer and the extreme movement is lessened. Of course, on long distant shots, this is not applicable. A train at a great distance appears to move slowly and the camera shutter is fast enough to record the movement evenly.

Follow shots are very difficult to do properly if the action is fast. It is a prime factor that the action be kept in the center of the frame while moving the camera and not allowed to see-saw from one edge of the finder to the other edge.

Technique Through Practice

It is wise to rehearse action shots when possible, but the filming of sport events or races must be done without rehearsal, and your technique must be gained through practice. Follow shots made with a telephoto lens must be done with a tripod and parabond. The slightest error in movement is greatly enlarged, and only perfect control of camera movement can eliminate it. It is not humanly possible to be sufficiently steady to use a telephoto lens while holding the camera in the hands. Don't try it.

Shots taken from a moving car or train are rarely acceptable for a good picture. If a scene is worth photographing, it will warrant time spent in stopping the car and setting up the tripod. If your camera calls for a moving automobile shot, choose a well paved road and partially deflate the tires so that they will absorb any road shocks.

If you are shooting the action in another car while it is traveling, the car containing the camera should be slightly behind the camera car to smooth the background action. For exterior dolly shots, use a child's wagon with rubber-tired wheels.

The dolly is very handy for exterior work. It enables travel shots as you can move from a long shot to a medium close-up without an abrupt cut in the scene. Judicious planning will alleviate your editing problems if it is done in such a manner that the beginning and end of the dolly shot is stationary as in a panoramic shot.

Never move a camera until you have sufficient footage from a still position to make an allowance for cutting and editing. An important rule is that dolly shots are not made on people that are not in action.

Dolly or Cut

For example, a man is reading a book, reclined in a chair. You will not gain anything by dollying forward to a close-up. A direct cut from a long shot to

(Continued on Page 12)



Additional view of Corral with the "T. & B. B."

Gerstenkorn Records Pendleton's Rodeo Thrills



IN the course of a six weeks' cruise through the Northwest country last fall Dr. Roy E. Gerstenkorn of Los Angeles spent ten days in the immediate vicinity of Pendleton, that famous Oregon town in which every year for thirty years there has been a Round-Up. Normally the town claims about 5000 persons as its population. But that figure is far from what actually crowds itself within and on the fringes of the corporate limits of the town during the few days of the annual festivities.

On those occasions the temporary residents literally come from the ends of the earth. From September 12 to 16 the last year the town swelled to 20,000 persons. One man for the tenth year in succession came from Florida. Cars were present from every state in the country.

Where these visitors were housed for the somewhat necessary job of watching a few hours' show was a mystery. To be sure, there are two very fine hotels as well as the average number of lesser houses catering to the needs of 5000 souls. The burden of the responsibility fell upon the townspeople, and they went to it.

One of the important factors of the attendance from the outside world consisted of three thousand Indians. They came to entertain and to be entertained. With them came their finest horses—and among these were splendid animals. The women brought their prettiest dresses. Millions of heads sparkled their brightest. The little Indians were doled up regardless. The chiefs of the five tribes participating were arranged in all their glory of headbands.

Preliminary Questions

These original Americans were all provided for in a special space by themselves. They brought their own tapes, some of which had been in their families for a hundred or more years. Some

there were made entirely of buffalo hides, handed down from father to son.

Dr. Gerstenkorn arrived in Pendleton before the start of the program and made rather extensive inquiries among the photographers. He made special inquiry as to the best spots on the field to get the sun and where as a rule the animals chose as their ground to perform. On the tryout days he took his camera down on the field and shot close up.

The management was very considerate of photographers and allowed full scope. The doctor, however, during the last of the tryouts got in the way of one of the animals wildly rearing, almost by the way, which caused not a snap of their lively heads for photographers or cameras. The doctor escaped the attack by the narrowest of margins. Thereafter he chose one of the boxes from which to make his exposures.

All of his shots were made from a tripod. The pictures show the wisdom of the precaution. Another precaution he took was in camera speed. After an early experience he made his speed never less than 24, and he made many at 32 and 64. That early rodeo experience was trying out a roll of film at 16. When it came back from the processing it was discarded.

The doctor stresses his point of speeding a camera at rodeos, especially when planning on taking stills from the film. It also goes for practically all sports events.

Past Action

One of the pictures that Dr. Gerstenkorn brought home from his trip to the Northwest is a 400-footer titled "Let 'Er Buck". It is all rodeo, packed with action each sequence following the other

moving up slowly toward at Pendleton. The shadow of his bullfight cap is across the face of his mother.

a rapidly as the news reels in their football stadiums.

Perhaps a lot of a day's program will give a better idea of what a rich harvest is here provided for the camera addict looking for something worthwhile to shoot.

Introduction of guests and attendants, cowboys' pony race, amateur calf roping contest, stage coach race, square race, amateur bucking contest, cowboys' relay race for the championship of the world, Unadilla square race, free-for-all Indian race, calf roping contest for the championship of the world, bulldogging contest for the championship of the world, cowgirls' and cowboys' grand mounted parade, spectacular Indian parade, trick riding, trick and fancy roping, full-blooded Indian ceremonial and war dances.

Unadilla Indian race, steer roping contest for the championship of the world, cowgirls' pony race, pony express race for the championship of the world, cowboys' bucking contest for the championship of the world, Indian relay race, cowgirls' relay race for the championship of the world.

There is plenty of thrill in the 400 feet of film. Motivating it are thirty years of experience in rodeo management. There is little injury to the participants so far as is discoverable. There is a hospital case in the Doctor's film. One of the bulldogging contestants is pinned his head when he left the horse's back and reached for the animal's horns. The stretcher is on the spot.

In the second picture is the first column of the layout on the page opposite.

the rider in a cloud of dust has broken through the fence. The third picture, just below, is a continuation of the same sequence. The throw still is accomplished, as the steer must be thrown with bare hand, flat on the ground on his side, all four feet out, head turned in proper manner.

Close Calls

At the head of the first column is a picture of a man being thrown by a bucking horse under the latter's raised feet. It seems impossible the contender will escape this; but apparently they do not descend on him.

At the top of the second column is a picture of a bucking horse that has all four feet off the ground. This was taken at 1/64th of a second.

The total amount of money being up for the contenders in the Round-Up was \$335, of which \$400 was expended on events which gave prize for all-around cowboy champion in accordance with the rules of the Rodeo Association of America.

Hollywood will be interested in one of the famous cowboys who has been a contender in Pendleton. In the cast of "Gone with the Wind" is Yakima Canutt, who has been in pictures for more than fifteen years—principally as a daredevil.

Accorded in the record of Pendleton Canutt was world's bucking champion for 1917, 1919 and 1920. He was bull-dogging champion in 1920 and 1921. For the Police Gazette belt he was registered winner in 1917, 1919, 1920 and 1921. In 1923 a \$2500 trophy was dedicated to the memory of ex-President Theodore Roosevelt emblematic of the all-around cowboy championship of the world, to be awarded the three-time winner of the most points at the Cherokee Frontier Days and the Pendleton Round-Up, the latter conducting the trials. Canutt was the winner of the award for 1923.

Dr. Gerstenkorn suggests if an amateur wishes really to test his ability to make a record of thrills and spills that he take a husky trip, speed up his camera to a minimum of 24 per second, with an occasional trial of 64, cut his horse or nearest rodeo and make a picture.

Not only will he learn how good he is in following with his eye and hand the fastest kind of action and experience the keenest sort of excitement personally but he will make an addition to his library that will be viewed with deep interest by his friends and club-mates as well as those of other clubs who will ask to get a peek at it.

Getting under way at 7:30 p.m., in the Crystal Room of the Adolphus Hotel, a program to delight the hearts of the children as well as their parents was presented. To these children, not having children of their own, the invitation was extended to bring the neighbors' children. After all, amateur movies got its start in showing the antics of the children, to be shown thereafter to any and all who will come to see them.

What humor—be he young or old—is not delighted with the man-made creatures; so in both macrochrons and color a program of movie cartoons was shown and well received. But to see the cartoon characters being created before your very eyes! That's where our own "Mike" Angelo, famous artist, captured the hearts of the audience.

With sure, swift strokes the characters they all love were created for them—and did they love it! Then, to prove that the cartoon form of drawing can be applied to real characters "Mike" proceeded to draw cartoons of the various children as well as some of the club members.

The Christmas Carol, no novelty of course, but as offered at this gala occasion was something really to hear. With musical accompaniment furnished by members of the Ladies Auxiliary, with the sweet method of presentation, with the voices of girls and boys blending with that of men and women, is a memory that will never be forgotten.

But Santa Claus is ready to open his pack. Lights Up! Camera Roll! Roll them over, and as Santa distributes his gifts to the ladies and even an older or two the cameras record it all for the future.

Four No. 2 Photofloods plus ordinary room lighting provided the necessary illumination for two 8 mm. and three 16 mm. cameras to record the events.

As the hour of parting draws near (lights out at 9:30 for the ladies), the officers of the Philadelphia Cinema Club extend to you, the Readers, a Very Merry Christmas and a Happy New Year!

E. N. LEMAY,
Chairman of Publications Committee

German Motion Picture Notes

According to the German press, the Commercial Attache at Berlin reports that innovations adopted by German motion picture theaters as a result of the war and its attendant inconveniences such as blackouts, etc., include a re-organization of the time of performances in favor of earlier shows and the scheduling of special shows at which, occasionally, the Westwall Film (Sigfried Lenz) and various educational films designed to inspire and reveal subjects are exhibited.

When the Philadelphia Cinema Club gives its annual Children's Party President A. L. O. Roush is caught with an emergency but a real thing Santa Claus

PHILADELPHIA'S CINEMA GIVES KIDS GREAT TIME

The Spirit of Christmas—the joys of Christmas-time are best exemplified by the joys of the children. To that end, the Philadelphia Cinema Club dedicated

its December meeting to the children with a regular set old-fashioned but really new-fashioned Family Christmas Party.



AT YEAR'S END—
AT YEAR'S BEGINNING—
DAY BY DAY—
EVERYDAY—

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Amateur Progress in 1939 Exceeded Professional

By WILLIAM STULL, A.S.C.

INsofar as professional cinematography is concerned, the year 1939, while highlighted by detail advances in many directions, did not bring forth (with one possible exception, still hardly out of the developmental stage) any broadly revolutionary advances.

In the amateur field more notable advances in materials and equipment may be noticed, following in several instances upon the heels of similar professional advances of the previous year.

In the professional field, the year's progress followed, in general, the logically predictable trend of consolidating the gains made possible in 1938's tremendous advances in film sensitivity, through the development of improvements in methods and necessary equipment.

Since the start of the European War in September, two definite economic trends have been observed, both of which may be far-reaching in their consequences. The first—noticed even before the outbreak of hostilities—in the transformation of several fundamentally European productions from the European studios to Hollywood.

The second—probably greater in importance—is a tendency among Hollywood producers, in view of expected losses in the foreign market, to curtail or wholly eliminate the lower-budget so-called "B" productions in favor of fewer but more expensive films which may be expected to enjoy a more stable market because of their quality.

Workshop

Another corollary of the European War is the probability that with the virtual elimination of foreign sources of supplies of such things as lenses, dyes, chemicals, and fine sensitive cameras, American manufacture of such products must benefit.

Perhaps the outstanding advance in professional methods has been the enormously increased acceptance by studio cinematographers of photoelectric exposure meters. The fact that these devices are now almost generally used not only on exterior scenes but on studio interiors as well may, be ascribed partly to the higher sensitivity of the present, high-speed emulsions, which made necessary closer control of illumination levels, and partly to the introduction of meters better suited to these lower light levels.

The trend, noted last year, toward the use of smaller lighting units, especially baby spotlights, has continued and is credited as cinematographers grew more familiar with the faster emulsions. The new films' sensitivity to delicate gradations of lighting has also prompted cinematographers in several studios to experiment with methods aiming at more scientifically accurate coordination of make-up and illumination levels.

Film—Professional

Potentially, the outstanding aerial development of the year has been the introduction of fine-grain positive emulsions, combined with ultra-violet printing by means of modified, high-pressure mercury arc light sources, for making studio recording sound tracks (both negative and positive) and for release printing of both sound and picture.

While yet scarcely out of the experimental stage, two productions now in release have utilized this process to some extent. Revolutionary improvements in sound quality (especially high frequency reproduction), in reduced emulsion graininess (6-8 db) and in improved picture quality are to be noted.

The possibilities of using this fine-grain stock for original sound track negative, dubbing and release positives,

combined with the known fine-grain characteristics of present picture negative emulsions, seem especially great.

During the latter part of the year the DuPont Film Manufacturing Corporation quietly introduced as "Superior, Type II," a high-speed monochrome negative emulsion of the type generally classed as modern, fast production negatives.

Anticipating that the General organization was erecting a film coating plant in this country, bought the total of major American factories producing motion picture film to date.

Film—Amateur

During the year 1939, and some film products benefited by the evolution of higher speed emulsions in much the same way professional Super film products benefited the year before. Agfa's "3585 Pan" and Eastman's "Super-XV" introduced 16mm reversal emulsions with (Weston) speed ratings of 100 to daylight and 64 to Mazda. Agfa's is not shown, made the well-known "Super-X" emulsion (speed, 64-80) available on 16mm (safety base) negative.

The Kien. Aida benefited almost equally from these advances, as both major factories introduced Kien emulsions of approximately twice the speed of previous Kien monochrome film, and with notably finer grain structure. Agfa's is marketed as "Twin-8 Hyper", Eastman's as "Super-V", the Weston ratings of both are 24 to daylight, 16 to incandescent illumination, as compared to 8 and 3 for previous types.

Color

Technicolor remained the dominant 35mm natural-color process, though at least three other three-color systems made greater or less strides toward commercial practicability, while in addition, prior to the beginning of the European War it was rumored that the Gasparcolor process, already in use abroad, was planning entry into the Hollywood field.

At the start of the year Technicolor introduced faster emulsions, approximately four times as fast as its previous product in daylight, and three times as fast in artificial light.

This resulted in marked decreases in the illumination levels for Technicolor photography. With the previous film, normal illumination levels ranged between 200 and 600 foot candles, while with the new, faster Technicolor film the average is approximately 250-350 foot candles.

This has revolutionized Technicolor lighting, making it possible for the first time to follow the monochrome practice of using very small incandescent spot-lighting units, including baby spots. At the same time, it vastly widens the scope of background projection process photography in color, making possible the use of remarkably large background screens.

The remarkable distribution of the new emulsions seems somewhat better, with resulting improvement in color rendition. Although accurate information on the

As mentioned in the first article, the two individuals, adjustable in their own right, are known as "Agitate" and "Act" (or "Agitate-Act").

The Bartwell-McAbster "Mabo" Kogi "lot" was made available to the area-tribes in the Eastern Mallee Shire through drought the country, in addition at least one other lot of Crown-landed gully speeflight is being reported in the mallee field

In the summer of 1964 a notable development in the use of the "bush" was the introduction of General Electric's "reflector-type" globe. These are available in both the fluorescent and spot-lighting type, and in each case consist of a funnel-shaped bulb with a multiple reflecting surface permanently coated upon the inside of the bulb.

There are two tubes—one soft (left), one hard (right)—in each of the two speed tubes. The most common type of speed tube is the so-called "dual" type, which has two tubes in each of the two speed tubes. The most common type of dual speed tube is the so-called "dual" type, which has two tubes in each of the two speed tubes. The most common type of dual speed tube is the so-called "dual" type, which has two tubes in each of the two speed tubes.

In the professional field, the trend in lighting was again toward the streamlined use of very small spotlights. Many spotlights, of the "pinpoint" type—both Harvard-Minivator and Kool-Burnham—with CD-type globes and day-light corrective filters

286 J. A. J. F. M. M.

The first version of the pamphlet introduced "Crang 'Protesto-Ektor'—or—Best Action Ever" was introduced a very different atmosphere, designed, by contrast Fred Goodale, was also showed, though not marketed commercially.

made the most important new contribution to the study of the "Golden Age" of the 1920s and 1930s. The book is a masterpiece of scholarship and is a must-read for all those who are interested in the history of the United States in the 1920s and 1930s.

Comments—Yamashita

The device would transmit in a form which could be read directly, without need of the objective lens. In some instances, a gradual reduction in the size of the objective lens is required. In this case, an adaptation of the method of J. S. Franklin of Hollwood, electronic-electronic light source was suggested.

beams, nozzles, cups or other fittings are immediately needed.

A number of major studies adopted the system of personally selected equipment for each examinee. With this, all equipment used with a given examinee is kept together at all times, whether in the studio or in location, thereby not only simplifying the equipment, but saving considerable time when special

Yakima, Washington, owned a musical instrument company and was a stage-band leader for one with extensive touring experience and on Kootenai courses. With this, the possession of a 12-inch horn in accord with an unexplained stage-finder in a garage studio in that frontier in association with common

of both stationary and moving targets to be used for training and testing of the system.

At the Metro-Goldwyn-Mayer studio a substantially new mobile camera carriage and put into use. Featuring a modernized monocoque-type chassis and an independent camera mount, it is intended to provide a single, highly flexible camera.

light-speed analysis and low-cost, built-in test for use with modern, advanced low-dimension semiconductor devices. The device provides dual-range readings with an internal microprocessor. This meter reads and displays the "True" meter reading and calculates the "Effective" meter reading in both phases.

[E-mail address] — 0000-0000-0000-0000

East, covering an angular coverage of Germany numbered a team version of their "Translocor" most here, while in the country Joseph Walker, A.S.C. developed an experimental zoom-type lens of single design, for Team use

In the sub standard gold ball of Howell that "Hoge Creek" sulphate is attached to the French-made Sanyo-Bio-ment test form cassette. This cassette gives the effective front height of a substandard specimen which is standard 17.7mm (less to approximately 17.5mm).

is being investigated by several countries, it has not as yet been publicly applied to photographic prints.

Applied to humans, the treatment makes surface reflections incoherent in thickness, which virtually eliminates the light-transmission—and hence the light-speed—of the device. While it is understood that the device would, it has been estimated, increase the light-transmission—and hence the light-speed—of the device.

STUDYING PHOTOELECTRIC EXPOSURE METERING

By CAPTAIN DON NORWOOD,
U. S. A., Retired.

Part II

IN October we considered the action of the photoelectric exposure meter in the face of certain typical conditions in the field. It was noted that under some conditions errors were introduced by the meter.

Some of these were due to natural

variations in relative size of light and dark areas in the scene, some due to relative location of meter operator at the time of taking a reading, some due to variations in angular position of meter when taking a reading.

The latter two sources of possible

error depend, in an analysis, on the manner in which they affect the relative size of light and dark areas in the scene as "seen" by the meter. So it develops that practically all of the errors considered may be laid to the underlying cause of variations in the proportions of light and dark areas as "seen" by the meter.

Test Stand Built

It was thought that it would be instructive to make a laboratory set-up so that the meter could be tested under controlled conditions and the exact magnitude of the various errors thereby determined. Accordingly an exposure meter test stand was constructed.

The test stand consists of a rigid support for the exposure meter, and a reflecting surface at a fixed distance from the meter. See Figure 1. The reflecting surface, in the form of a disc which just encompasses the area seen by the meter, is adjustable as to relative size of light and dark areas.

It is possible to have this disc area adjusted to show all dark surface, or all light surface, or part dark and part light in any desired proportions.

By using various proportions of light and dark areas a total allowance effect of reflected illumination may be made to match the reflected illumination from any conceivable photographic scene.

The material chosen for the dark surface is one having a very low reflection factor: black velvet, with a reflection factor of 3 per cent. The bright surface has a high reflection factor: white velvet, with a reflection factor of 90 per cent. The reflection factors refer to diffuse reflection in every case in this study.

Illumination Constant

The ratio of these two reflection factors is 40-1, which serves our purpose very well since, with very few exceptions, a 40-1 range of brightness is the greatest usually encountered in the average photographic scene.

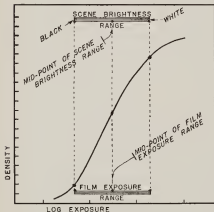
In using the test device the illumination on the disc will be constant. The effect of variations in the size of the light and dark sectors can be observed.

Let us first make an adjustment of the test disc which will give us a set-up that will roughly correspond to the scene illustrated last month in Figure 1, that of the girl in the white dress standing in front of a dark background. That will give us the adjustment shown in Case I, of Figure 2. A small sector of white and a large area of black.

In all of these tests the incident light will be constant. It will be set to have a value, normal to the surface of the test disc, of 1000 foot candles. If the reflection factor of the white velvet were 100 per cent then the brightness of the white velvet would be 1000 foot lamberts.

Since the reflectance of the white velvet is actually 90 per cent, the brightness of the white velvet turns out to be 900 foot lamberts. The black velvet with

FIGURE 3



Figures 1a, 1b and 2a—Exposure meter stand as designed by Capt. Norwood

a reflectance of 3 per cent has a brightness of 36 foot lamberts.

White and Black

If the entire disc, with area of 1 square foot, were white velvet with brightness of 860 foot lamberts, the light flux reflected from it would be 860 lumens. If the entire disc, with area of 1 square foot, were black velvet with brightness of 26 foot lamberts, the light flux reflected from it would be 26 lumens.

Combinations of white and black meters will give values of reflected light flux intermediate between the limits of 860 and 26 lumens.

We must bear in mind that what actuates the exposure meter is the flux density of the light striking its sensitized surface, and this flux density for our set-up will be a function of the number of lumens being emitted from the 1 square foot of reflecting surface.

Now in Case I, Figure 2, the combination of $1/32$ square foot white and $31/32$ square foot black will reflect to the meter a flux density of light that will give a meter reading of 44 k. The factor k is a constant depending on the calibration of the individual meter. In our study it will simplify matters to consider it as having the value of unity (1).

In Case II, where the white area has been increased to $1/4$ and the black area decreased to $3/4$, the meter reading turns out to be 118 k.

In Case III, with $1/2$ of the area in white and $1/2$ in black, the meter reading is 215 k.

In Case IV, with $3/4$ the area in white and $1/4$ in black, the meter reading is 416 k.

In Case V, with $31/32$ of the area in white and $1/32$ in black the meter reading is 775 k.

Incident Illumination Unchanged

Now all through this series of tests the incident illumination (foot candles) has not changed. The brightness (foot lamberts) of the white velvet has not changed. The brightness of the black velvet has not changed. Therefore one photographic exposure which would be properly set to include the brightness of the white velvet and the brightness of the black velvet would do for any and all of these cases.

However the reflected flux density was different in each case. Since the meter reading is a function of the total reflected flux density, we have a wide variation in meter readings, ranging from 44 k in Case I, to 775 k in Case V.

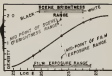
The exposures indicated by a meter in Cases I to V would vary by the same ratio 44 to 775, except that it would be in inverse fashion, of course, since the highest meter reading dictates the least exposure and vice versa. So it now becomes apparent where the meter read-



FIGURE 2

Black-white graph
[For reference]

The mid-point of the scene brightness range coincides with the mid-point of the film exposure range.



Case I
Total area of disc = 1 sq. ft.
Area of white = 1/32 sq. ft.
Area of black = 31/32 sq. ft.
Brightness of white area = 800 ft. lamberts
Brightness of black area = 20 ft. lamberts
Light flux reflected from white area =
 $800 \times 1/32 = 25$ lumens
Light flux reflected from black area =
 $20 \times 31/32 = 15.6$ lumens
Total reflected flux density = 44.4 lumens/sq. ft.
Meter reading AVIMARK 2-BRIGHTNESS of scene = 44.4



Case II
Total area of disc = 1 sq. ft.
Area of white = 1/8 sq. ft.
Area of black = 7/8 sq. ft.
Brightness of white area = 800 ft. lamberts
Brightness of black area = 20 ft. lamberts
Light flux reflected from white area =
 $800 \times 1/8 = 100$ lumens
Light flux reflected from black area =
 $20 \times 7/8 = 17.5$ lumens
Total reflected flux density = 117.5 lumens/sq. ft.
Meter reading AVIMARK 2-BRIGHTNESS of scene = 117.5



Case III
Total area of disc = 1 sq. ft.
Area of white = 1/4 sq. ft.
Area of black = 3/4 sq. ft.
Brightness of white area = 800 ft. lamberts
Brightness of black area = 20 ft. lamberts
Light flux reflected from white area =
 $800 \times 1/4 = 200$ lumens
Light flux reflected from black area =
 $20 \times 3/4 = 15$ lumens
Total reflected flux density = 215 lumens/sq. ft.
Meter reading AVIMARK 2-BRIGHTNESS of scene = 215



Case IV
Total area of disc = 1 sq. ft.
Area of white = 1/2 sq. ft.
Area of black = 1/2 sq. ft.
Brightness of white area = 800 ft. lamberts
Brightness of black area = 20 ft. lamberts
Light flux reflected from white area =
 $800 \times 1/2 = 400$ lumens
Light flux reflected from black area =
 $20 \times 1/2 = 10$ lumens
Total reflected flux density = 410 lumens/sq. ft.
Meter reading AVIMARK 2-BRIGHTNESS of scene = 410



Case V
Total area of disc = 1 sq. ft.
Area of white = 31/32 sq. ft.
Area of black = 1/32 sq. ft.
Brightness of white area = 800 ft. lamberts
Brightness of black area = 20 ft. lamberts
Light flux reflected from white area =
 $800 \times 31/32 = 775$ lumens
Light flux reflected from black area =
 $20 \times 1/32 = 0.6$ lumens
Total reflected flux density = 776 lumens/sq. ft.
Meter reading AVIMARK 2-BRIGHTNESS of scene = 776



ings may be somewhat misleading in indicating exposure values.

The correct exposure for this set-up would be indicated by a meter reading of 125, this figure being the geometric mean between the brightness values of 20 and 800. The readings actually shown by the meter in the test series just considered ranged from 41 to 774, or from about 1/3 of the correct reading up to over 8 times the correct reading.

Negative's Exposure Latitude

Such values would have resulted in exposures ranging from 3 times normal down to 1/4 of normal, all due to the change in relative size of bright and dark areas in front of the meter. As an aside it may be of interest to note here that an arrangement of black and white areas which would give the ideal result of 127 would consist of 14 per cent of area white and 86 per cent black.

The reason the meter works fairly well for black and white films is due to the great exposure latitude of modern negative films. This exposure latitude is about 1—128 in most cases. With a scene brightness range of 1—40 being imposed on a film with latitude of 1—128 considerable error in the meter reading can be tolerated and possible results still secured.

It was thought it would be interesting to carry this study still further and plot the results of meter determined exposures for Cases I—V on H & D curves. This was done and the results are shown in the right hand column of Figure 2.

In each graph in this column is shown an H & D curve for a modern panchromatic emulsion developed in a gas-flow of 0.75. The heights of the substantially straight line portions of the curve are shown by dots on the curve. For convenience these limits are projected down as is a hand-entitled Film Exposure Range. This range embraces exposure values having a ratio of 1—128. The mid-point of this range is also indicated for reasons that will presently appear.

Brightness Values

At the top of each graph appears another hand-entitled Scene Brightness Range. Since this appears over a Log Exp. scale, what is actually referred to are the values of the Scene Brightness Range range after going through the camera lens and being modified by the exposure controls of f stop and shutter time. This upper band is projected down as is the H & D. curve in each case so that relative positions of the two bands may be noted.

The length and position of the Film Exposure Range band is determined by the characteristics of the emulsion and the development. The length of the Scene Brightness Range band depends on the range of brightness values found in the scene.

The position of this band on the chart is determined by the exposure controls

Glennon Three Times Winner

BERT GLENNON and Ray Rennahan won the contest on 1 for their Technicolor photograph, "Dance Along the Bohemian," made by Technicolor-Columbia-Fox, in a substantial majority. It was released in November. For Glennon it means an honor that outdoes that of any other photographic award in the twenty-one polls that have been taken in the Hollywood Reporter.

It is Glennon's third consecutive release to be so recognized. They were "Stagecoach," a Warner production, released in February, "Young Mr. Lincoln," Twentieth, released last June, and the present.

Rennahan has been mentioned once before in the twenty-one months the poll has been conducted, sharing the honors with Ernie Palmer in "Kentucky," released in December, 1936.

There were tie votes for both second and third places. For the second the votes were even on Victor Milner's "The Great Veritas Herbert" and Tony Gaudy's "We Are Not Alone," which subject by the way took all but four awards for the month. The third place was divided between Universal's "Destry Rides Again" and "Tower of London," the cameramen respectively being Hal Mohr and George Robinson.

It was a matter of interest to note that one director of photography, Al Gilks, in three consecutive campaigns coming from his hand has participated in an award for "best general feature." These were at the MGM studio—"These Glamour Girls," "Dancing Co-Ed" and "Secret of Dr. Kildare."

of f stop and shutter time. If a meter is used to determine these two exposure controls it can be readily seen that the meter determines the position of this band on the chart. The shifting of this band to right or left on the chart correspond to exposure determination by the meter is the important feature of the series of graphs.

At the top of the column is shown, for reference, an ideal exposure. It will be noted in this case that the mid-point of the Scene Brightness Range coincides with the mid-point of the Film Exposure Range.

Exposure meters functioning on flux density of light reflected from a scene give a reading that indicates average brightness of the scene. This average brightness can have a value anywhere in the brightness range of the scene depending on relative proportions of bright and dark areas in the scene, as we have learned in studying Cases I to V.

In Case I, the average brightness has a value of 44, quite near to the brightness value of the black area, namely 20.

Highlight and Reflection

Now let us digress a moment to state a few principles. The computer on a meter indicates exposure controls which will so modify the Scene Brightness Range that the average brightness point will coincide with the mid-point of the Film Exposure Range.

It then follows that the brightness range of various scenes will be noted to right or left of the exposure scale depending on where the average brightness value of the scene happens to be with respect to the values of brightest highlight and least reflection.

Since in Case I the average brightness has a value quite near to the brightness value of the black end of the

Scene Brightness Range, the whole band will be shifted to the right on the chart, so that the average brightness point will coincide with the mid-point of the Film Exposure Range.

It can be seen that in this location the white end of the Scene Brightness Range lies outside of the limits of the Film Exposure Range.

The result of following the meter reading when confronted with a scene having a small proportion of bright area and a large proportion of dark area, as in Case I, will be correspondence for the high lights in the scene.

Exposure Sensitivity

In Case II the average brightness value of the scene has moved nearer to the center of the Scene Brightness Range. Consequently, in an exposure based on the meter reading the Scene Brightness Range has been moved to the left on the chart. Now the extremes of black and white lie within the limits of the Film Exposure Range and the exposure is said to be satisfactory.

In Cases III, IV, and V a continuation of the same shift to the left may be observed. However in Case IV it will be noted that the black end of the Scene Brightness Range now lies outside of the limits of the Film Exposure Range.

The same thing is still more marked in Case V. These last two cases illustrate the fact that with a scene having a large proportion of bright area and a small proportion of dark area, there will be underexposure of the dark areas when the meter reading is followed.

Natural Color Film

We have now seen determination of exposures with the meter and computer results in placing the average brightness of a scene at the center of the Film Exposure Range.

(Continued on Page 44)

DuPont's Superior II Combines Speed, Fine Grain, Wide Latitude

By **HOLLIS W. MOYSE,**

*Technical Representative DuPont Film
Manufacturing Corporation*

DAYLIGHT FILTERS FOR DuPONT PANCHROMATIC NEGATIVES

	SUPERIOR I Filter Factor	SUPERIOR II Filter Factor
Aero 1	1.5	1.5
Aero 2	2.0	2.0
12	2.0	2.0
15C	2.5	2.0
21	3.0	2.5
23A	4.5	4.0
25A	6.0	5.0
29F	12.0	11.0
56	3.0	3.0
3N5	4.0	4.0
5N5	5.5	5.5
25ND	1.8	1.8
56ND	3.1	3.1
75ND	5.8	5.8
100ND	10.0	10.0

INTRODUCTION of the recently announced DuPont Superior II negative, now in use in several major studio makes available to cinematographers a new stock which combines very high speed, exceptionally fine grain and wide latitude. A brief description of its more important characteristics is presented herewith.

Excessive Speed

Practical gains under studio conditions has shown DuPont Superior II to be conservatively twice the speed of Superior I, with which cinematographers are well acquainted. This is confirmed by Theodor Sparckuhl, A.S.C., in his comprehensive article "Testing New Weston Kolor," which appeared in the December 1936 issue of *American Cinematographer*.

Grain

The grain improvement in Superior II is readily recognized by its beneficial effect on the definition and texture of the image. It is noteworthy that the graininess characteristics have been improved,

rather than sacrificed, in obtaining the substantial speed increase.

Latitude

As a result of specific research effort, Superior II will be found to embody the wide latitude, shadow detail, and so-called "foot print qualities" of Superior I. Enthusiastic reports on the ease of handling Superior II serve as evidence that this recognized DuPont characteristic has been retained.

Color Balance

As may be seen in the spectograms here illustrated, and the filter factor chart, DuPont Superior II has very closely the same color balance as Superior I, except for a slight increase in red sensitivity.

The DuPont Film Manufacturing Corporation offers Superior II with the reputation that its exceptional speed, latitude and grain will enable it to serve as an effective tool in advancing the cinematographic art.

Hong Kong Takes American Motion Pictures "As Is"

Censorship of American motion pictures is notably more lenient in Hong Kong than in most other parts of the world, according to a report from Consul John H. Bruen.

The only competition to American films in the island colony comes from Chinese-produced pictures, the report indicates. Official figures show that in the first nine months of this year 555 American feature films and 135 locally-produced films were censored in Hong Kong.

It is estimated that approximately 100 feature films will be produced in China during the current year, which is double the total of 1935. Chinese pictures, however, are technically inferior and the domestic features cost less than \$2000 each to produce.

There are 28 motion-picture theaters in Hong Kong, having a total seating capacity of 29,000.

Spectograms demonstrating similarity of light balance characteristics in DuPont Superior I and Superior II negatives

Superior I

Superior II



Mountain Authority Completes Color Feature

By CLIFFORD NELSON

SIERRA NEVADA
Grand Centennial of California

SIERRA NEVADA is a delightfully intimate color film describing some of California's most spectacular high mountain regions. It features the John Muir Trail, which extends from Yosemite National Park to Sequoia National Park. This route takes one through a sublime wilderness of rugged mountains, with joyous streams and stupendous waterfalls, haunts of gleaming blue waters, glaciers at work in the shadows of the peaks, groves of bowy trees, garden spots of delicate alpine flowers, and incomparable mountain glows and magic sunsets.

The picture is dedicated to John Muir, famous and beloved California naturalist. For the theme of "Sierra Nevada" I chose one of his many beautiful invitations to "climb the mountains". Climb the mountains and get their good tidings.

Nature's peace will flow into you
As sunbeams flow into trees.
The words will blow their freshness into you

And the storms their energy,
While cares will drop off like autumn leaves.

Muir also stated, "I live to entice people to learn of nature's loveliness." With the hope of contributing to this fine ideal, I made this color film describing an in-

teresting peak trip over the John Muir Trail.

ITINERARY

Although the Muir Trail proper begins at Tioga Pass Meadows, I have also included pictures of many interesting high lights of Yosemite National Park, such as Yosemite Valley, the Big Trees, Hitchcock, Glacier Point, summit of Half Dome, and the popular Maroon Lake-Vogelung Pass Trail, which is one of the northern termini to the Muir Trail.

Leaving Tioga Pass Meadows, we follow the Lyell Fork Trail, sometimes walking over magic carpets of delicate wildflowers. Finally we ascend to Denzies Pass on the Sierra Crest, where admirable views of Mount Lyell and its spectacular glacier are enjoyed.

To the south we get a glimpse of Mount Ritter and Bannock Peak, part of the noble Ritter Range. Bannock Peak dominates Thousand Island Lake, which is the site of one of our very interesting camps. Although this lake is dotted with rocky islets, and surrounded by rugged barren slopes, its shores are covered with green grass and colorful flowers.

On the other side of a low ridge, we see Garnet Lake, with Mount Ritter crowning its right; setting. Here we find the pass between Garnet Lake and Shadow Canyon blocked with snow, so we detour about twenty miles in order to get through to the other side of this



"It Is Just the Awareness of Nature,"
Nature standing and her companions
in the Sierras.

otherwise easy mountain pass. On this alternate trail we photograph our best collection of flowers.

Filing Details

Shadow Canyon presents a tremendous concentration of mountain wonders. Shadow Creek, Shadow Lake and Lake Edna, are dominated by Mount Ritter and the Minarets. The latter are tremendous walls of sheer rock with numerous jagged spires and pinnacles crowning the crest.

In the shadows of these heights we see interesting glaciers, dazzling snow fields, and a lake jeweled with icebergs. Finally, we thrill at the sight of an incomparable sunset effect on clouds which are breaking up over the dark massive silhouettes of Bannock and Ritter. The pictures of the wonders of upper Shadow Canyon and the sunset climax complete the first reel. An intermission usually follows.

In describing the second reel I shall merely mention a few of the most interesting highlights. This part of the film takes us from Shadow Canyon to Mount Whitney in Sequoia National Park.

At Agnew Meadows we visit Mr. and Mrs. Charlie Sorenson, whose cordial



"The snow peaks, like a crown, give to Cloud their crown of golden splendor."

"There are, indeed, many a fine scene, but the most beautiful of them."

"The snow peaks, like a crown, give to Cloud their crown of golden splendor."

center for the film reveals. Another series describes the routine of a day in camp, showing sleeping in bags, washing in the streams, cooking breakfast, eating a typical trail lunch, and finally preparing dinner.

The fishing story describes catching the golden trout, preparing them for cooking and then frying them to a crisp golden brown.

The packing sequence describes such conveniences as nests of pots, specially made waterproof socks, duffel bags, and die bags, etc., and also shows how these items are carried on the animal.

A few of these so called educational picture incidents are rather thrilling. Due to the extremely heavy snowfall during the previous winter some of the passes and many sections of the trail were blocked with snow. I tried to point out a few potential sources of danger and explain how it is possible to avoid or overcome them.

To the inexperienced mountaineer, this series of educational pictures will present interesting and valuable material for practical use. The experienced mountaineer will delight in recalling memories of his interesting trips.

CONTINUITY

The overhanging route of the trail provides a fundamental background for interesting and thrilling continuity. Action is, of course, a most important factor. Various phases of this subject are mentioned in connection with my descriptions of our hiking and camping activities. However, I might add that even many of the scenic shots include at least some suggestion of action.

The titles are selected "poems in prose" which, although brief, are rich in meaning. They are little "thought gems" that add a rather refreshing sparkle to the pictures that follow them. For example, when some people wish to ascend a high mountain pass, they question the safety of mountain trails. I can't help but chuckle (and the audience chuckles with me) every time that I read the title, which is John Muir's answer to such a question: "These mountain passes lead through regions that he far above the ordinary haunts of the devil."

As a final freshening touch to the continuity of the pictures I prepared a descriptive dialogue. In this dialogue, combined with the plan of the pictures, I have attempted to create a friendly relationship between the "characters" on the trip and the people in the audience. "Hark," my original companion, is a

"These beautiful days saturate themselves into every part of the body and live always."

"The Sierra are so beautiful, kindly and tenderly inspiring. It seems strange that every one does not come at their call."

"Gibberers are still at work in the shadows at the ponds, and thousands of lakes and meadows bloom beneath them."

hospitality is recalled by many who have packed into this section of the Sierra. I took a few shots of these camp in order to illustrate how easy it is to reach various wildernesslike areas in the Sierra from nearby pack stations.

A few miles out of Agnew Meadows we view the Devils Post Pile. This curious pilelike structure consists of formations of crystallized columnar basalt, with masses of broken columns beneath them. It is one of the finest of such structures in the United States, and ranks with the Giant's Causeway in Ireland and Fingals Cave in Scotland.

Wide Angle Shots

On top of all of the high mountain passes along the Muir Trail I have taken wide angle shots of views looking toward the north and of views looking toward the south, in order to orientate the audience. For example, at Silver Pass, my views looking toward the north include our final glimpses of the already familiar peaks of the Ritter Range.

Above Mono Creek we see a very interesting "half dome" structure. My telephoto shot reveals that it is a very curious cross section of a volcanic crater.

After crossing over Bear Ridge, we drop down to Bear Creek, where we experience, and of course photograph, the lightful fishing for golden trout.

In the spectacular Evolution country we enjoy some of the most beautiful meadows in the Sierra. Then we ascend to Muir Pass (elevation 12,959 feet).

Unfortunately, space does not permit me to follow through to the end of the trip with this very sketchy description. In this account, I merely attempt to give the reader some idea of the trip and of my instant picture record.

From Muir Pass to Mount Whitney, the country is equally beautiful, and probably a bit more spectacular. I might add, however, that the trail winds through such lovely forested cañons as Palmdale Cañon and Woods Creek and ascends to such heights as Mather Pass (12,680 feet), Fischer Pass (12,950 feet) and Foresters Pass (13,290 feet). In Sequoia National Park we ascend to the summit of Mount Whitney (14,494 feet).

EDUCATIONAL

In addition to photographing the beauties of these wondrous mountain scenes I took many picture sequences that illustrate the technique involved in making a pack trip. I wanted the picture to be instructive as well as entertaining, and I tried to picture the answers to some of the many questions that people ask about such trips.

One scene describes the importance of



blatant outdoor growth, like a neither cinema, nor, well, neither cinema.

"Whereas" is the big strong male that picks most of our supplies "Tiger-male," on the other hand, is quite temperamental. His cunts down hill with the greatest of ease, but has to be towed by "Whereas" on the up-grades. That "third person," when so many people must have been on the trip in order to operate the camera, is none other than the writer, who occasionally gets into the picture by playing the dual role of "cinema states" and "stopper," and amateur actor.

PRESENTATIONS

"Karna Nansala" is presented with an explanatory dialogue and background of selected music. The film has been so planned that the first half (1600 feet) constitutes a general cross section of a pack trip in the Sierra.

In this and I have attempted to in close shots of the most important phases of trail camping.

Also the camera, which includes a rich variety of spectacular scenery. It begins with some of the scenic wonders of Yosemite National Park, and continues with the lakes, meadows, glaciers, and peaks of the Ritter Range. This reel provides an ideal program for groups that desire a forty-five minute to one hour show.

The second half of the picture depicts some of the most spectacular winter new areas in the entire Sierra Nevada Range. The entire program can be presented in about an hour and forty minutes, including the introduction.

The showings in San Francisco and the East Bay regions have been very successful, as indicated by sold-out performances as long as six days in advance, extra shows, and a most enthusiastic response in the form of sincere letters of appreciation.

While in the mountains I always feel that everyone should be there with nothing in a person's equipment that I sincerely desire to share freely. Quoting Muri again, showing these pictures in my way of "offering people to learn of nature's loveliness."

St. Paul Metropolitan Cine

(From the December Bulletin)

Our club picture "Active Sports" turned out fairly well. Made as it was in one evening, with the characters having no rehearsal, other than short instructions before each scene was taken, the picture as a whole was good.

The instruction received by those taking part and also those looking on was indeed something that could be obtained nowhere else, and all agreed their future pictures would be a whole lot better as a result of the instruction and instruction received that evening.

It goes without saying Leo Zengeler directed the picture like an old timer, even to having a complete script from which he directed the picture very capably.

The characters were portrayed by "Doc" Mortensen and Ed Barber as

(continues) and Roger Byrne as the waiter in the cafe. Camera technique, lighting, make-up, exposure and composition all received their share of attention, and everyone present really had a chance to go to "Movie School" that evening.

Those who served on the picture committee were Leo Zengeler, chairman; John Mortensen, Harold Puggott and Lynette Gallagher.

The State Conservation Department which is anxious of having a picture made showing the recreational possibilities of Minnesota, met with representatives of the club, Leo Zengeler, John Mortensen, Joe Ernstberger, and the matter was gone over.

While no definite decision has been reached as yet, Mr. Karp of the Department was very much impressed with the quality of the pictures screened by our members. The following members made a showing that evening: Ted Hachstone, Karl Waldorf, Ed Grunke, Harold Puggott and Gilbert Peterson.

Academy's Research Council Considers Program of 1940

In line with the trend for advance study of motion pictures by means of new research ideas, the Research Council of the Academy of Motion Picture Arts and Sciences is now considering its coming year's program, with plans for even more thorough consideration in the field

of photography, laboratory processing, sound recording, motion picture optics and sound and picture projection than previously.

Membership of the Research Council, made up of one representative from each studio, consists of John Aalberg, representing RKO Radio, Bernard Brown, Universal; Fairfax Edwards, Paramount; E. H. Hansen, Twentieth Century-Fox; Nathan Levinson, Warner Brothers; John Lendavre, Columbia; T. T. Moulton, Samuel Goldwyn, and Douglas Shearer, Metro Goldwyn-Mayer.

Eastman Issuing Control for Two Photo-flood Lamps

Designed to prolong the life of Photo-flood lamps and assure comfort for subjects while a picture is being arranged, a new Kodak control for photo-flood lamps is announced by Eastman.

The Kodak Control, a compact metal box less than six inches square, accommodates up to six No. 1 Photo-floods or up to three No. 2 Photo-floods. It plugs into any power line of 100 to 125 volts, either A.C. or D.C., and four sockets are provided into which cords from Photo-flood lamps may be plugged.

During the time a person is being posed, or a still-life subject is being arranged, the lamps may be turned at about half voltage, through use of the "dim" switch setting on the Kodak Control. At this voltage, the lamps emit enough light for working out a lighting scheme, but heat and glare are greatly reduced. The device adds comfort for all persons engaged, and helps in handling many still-life subjects that are sensitive to heat.

An interesting feature of the device is that either the left-hand or right-hand group of lights can be turned on or off independently of the opposite group. With the Kodak Control placed at camera position, the photographer can shut off or alter the lighting without the need of moving from his lamp.

When a lighting scheme has been evolved and everything is ready for the exposure, lamps may be instantly switched to full brilliance for the few seconds necessary, then returned to the convenient and economical low voltage during preparations for the next shot.

Priced at \$4.50, handsomely finished in brown wrinkle with "dim" and "bright" lettering in white, the Kodak Control for Photo-flood lamps makes an excellent holiday gift for the serious amateur photographer. Complete instructions are furnished with each control.

Agfa Announces New Trays

Announcement is made that the 4 by 6 inch compact developing trays, marketed by Agfa Ansco, are now being superseded by trays of the same size, made of genuine hard rubber. Amateur photographers will be interested to know that the new hard rubber trays are available at the list price of 20 cents each, a new low price for trays of this quality.

Clifford Nelson

CLIFFORD NELSON, who has written this description of his feature-length 16mm Kodachrome subject, for several years has been closely affiliated with playground and visual recreation work in San Francisco. In the last five years he has developed a large boys' center to the extent of his home, naturally recognized in the field of juvenile delinquency prevention.

His conception and development of the plan for visual recreation proved to be a valuable asset to the San Francisco Recreation Commission, both as a public relations and an educational program.

Prior to the making of "Sierra Nevada" all of Mr. Nelson's pictures were made for the Recreation Department of San Francisco. The present picture is his own. It will be shown in Los Angeles on the evening of Tuesday, January 3, in Regal Hall Auditorium, on the campus of the University of California, at 8 o'clock.

Mr. Nelson, besides being an outdoor enthusiast and the maker of many really high quality pictures in color as well as in black and white, is the author of the book "Natural Color Film," now in its second edition.

Composition Is Simple —Perhaps— but Very Important

By JAMES A. SHERLOCK

ACTION is a dynamic force in a moving picture, but is not sufficient to hold attention without that elusive quality known as "Picture Composition," difficult enough to obtain in the reflect viewfinder of a still camera but ten times more difficult to acquire in the small viewfinder of any cine camera.

If the amateur cinemath wishes to add Picture Composition to his skills he can easily develop a picture conscious eye that will naturally select a good camera angle for every shot. A study of good work done by artists and still photographers will assist, but will also prove to the cinematographer that he must be careful in selecting camera angles as the

size and shape of the "field" in a moving picture remains permanent after the film has been exposed.

A good scene will have an abstract quality that suggests much more than it actually shows. A visit to the local art gallery by a movie maker in a receptive mood will prove this point more than any words, and a study of works of art will show that most paintings are BUILT on some geometrical pattern that has the power to attract the eye and HOLD attention.

Why "Old Masters"

The "S" curve suggests depth and beauty, the Diagonal is used for speed



*The simplest method is attractive depth
by means of a "Frame" by John
Mason*

or movement, the Triangle or Pyramid suggests strength and stability, Radiation suggests growth and the Rectangle is used if dignity is emphasized.

Great artists have used these forms as well as the test of time, and a study of their sketches or paintings explain why they are known as Old Masters. Their work holds the most casual eye in channels that all lead into the picture and attract attention long enough till the viewer appreciates the abstract meaning of the Master.

All mentioned geometrical forms are now used by the world's best professional cinematographers when photographing either an interior or exterior. They use a particular design to suggest a mood in keeping with the scene. Sometimes a geometrical design is used to group or pose characters, while at other times the design is in the set or scene.

Geometry Valuable

This might seem a little involved to the amateur who has not yet troubled about this absorbing phase of movie-making, but once the first few rules are learned, the cinemath will find an added pleasure to his fascinating hobby and his work will be of a higher standard, particularly if he is observant and has imagination.

There are many books written on still picture composition that will interest the cine worker. They explain that every scene as a whole must be studied and correctly balanced with fewing lines that lead the eye into the picture.

Most rules governing still picture composition are applicable to moving pictures, but are not strictly followed by the cinematographer with imagination, who cuts a scene when the action reaches its climax, then follows with a shot that



Each scene must have a definite opening that compels the viewer to look, and closing one, to understand



has a pleasing camera angle produces a smooth change of scene.

One of the most enjoyable aspects of a good motion picture is the careful camera angles chosen to secure successive scenes that are restful to the eye.

Unlike the painter who can eliminate or add what he wishes, the cameraman must carefully choose the best position for his camera with the knowledge that every tone of light and shade will remain permanently as each scene is photographed.

What Makes Depth

The sense of depth is a vital part of all moving pictures and good cameramen use light and shade to suggest the feeling of the third dimension as a screen that has but two dimensions.

To create this illusion a series of objects must be placed at different distances from the camera. It is the suggestion of space between objects that all cameramen should strive for when seeking pictorial effect. When black and white film is used, light must fall from an angle and break the picture into various shapes, thereby casting shadows in full diagonally on the scene.

With color film this is not as important, as different colors separate the objects, but even when using the latter film shadows should not be avoided.

On occasions the beginner will select a camera angle which shows perspective, texture and harmony, but unless he has had previous experience with a still camera his early pictures will be flat and dull.

If the picture is spoiled by the ugliness at the front or the background which takes the eye out of the scene, don't shoot until the difference.

Using a camera outdoors, long shadows are to be gathered in early morning or late evening. Nature is then at her best for the picturesque. Landscapes and buildings are draped with long trailing shadows. If the building is light in color a heavy shadow is used to give contrast between the sky and architecture. If it is a dark building try for a white cloud behind it. The contrast of tones give a suggestion of depth.

Line of Beauty

By having a road or river recede from the camera in the form of the letter "Z" depth is felt as a finished movement. This form of picture composition is to be

Think you seeing good points about this shot. Notice the S curve leading to the cottage left hand corner, also lines leading to the main point of interest which has not been placed in the center of the picture. Photo by Eric Merton.

found everywhere, in a shapely woman's figure, curving clouds, winding paths, a winding brook, breakers on the seashore, in fact it appears more often in nature than any other form of picture composition and is most pleasing to the eye. It is known as the line of beauty.

The simplest method of obtaining depth in a scene is to frame it "Framing" means placing an object along at near the edge of a picture but the object should be small and of a medium tone and should not contain distracting contrasts. If the "Frame" is in keeping with the mood of the scene so much the better.

For example, when photographing a landscape, have a small tree near one of the lower corners of the viewfinder; then in a seascape, include a small boat in a similar spot. In street scenes, a stationary vehicle or traffic signal can be used; when photographing architecture look round for an archway, but remember the framing must be used to attract attention to the center of interest.

Framing a Branch

Another popular form of "Framing" is the use of a branch of a tree. This is particularly advantageous when photographing a scene that has little movement. A real tree is best, but a small branch can be held a few feet in front of the camera. If there is no wind, the branch could be gently swayed as the film is running through the camera.

(Continued on Page 38)



Making Modern Matte-Shots

By Byron Haskin,
A.S.C.

Head of Department of Special Effects
Warner Brothers' First National Studios

In Two Articles ARTICLE II

DURING recent years the increasing use of Technicolor photography, especially evident at the Warner Brothers' studio, has brought new problems to the making of matte-shots.

It is no longer enough to match merely the alignment, line, form and total values of the two elements of the shot; the color values must also be matched perfectly, or the composite shot will lose its naturalness. On the other hand, it is becoming evident that color offers highly exciting possibilities in telling matte-shots.

Color matching must be done in two senses. It is obvious that the coloring of the actual set or landscape of the live-action portion of the shot must be precisely matched by the coloring of these respective continuations in the painting. This is by no means easy.

Two pigments which give visually identical color impressions very frequently may not photograph the same in Technicolor. It is entirely possible that the pigments used to paint a set may not photograph with the same Technicolor values as will visually identical pigments used in producing the matte-painting.

Therefore more than ordinary close coordination between the matte-shot personnel, the set, the art, and painting departments is necessary. The matte painter must not only know what colors were used in the set, but what paints were used to produce these colors. Where it is possible he should have samples of the colors and paints used. The same, of course, is also true of fabrics and the like where they enter the matte painter's problem.

To date, we have found no method of making natural color frame enlargements to guide the painter as the monochrome frame enlargements do.

There are color print processes which will yield good color prints from Technicolor negatives; it is true, but they are slow and troublesome, and—most important—they do not use dyes which give the same results as those used in Technicolor printing. And unless the print gave the same chromatic balance as the ultimate Technicolor print it would be useless for picture work.

Our greatest reliance is therefore placed on a projection and inspection of the actual Technicolor negative, and upon careful study of the natural-colored Technicolor "pilot" prints in a magnifying viewer.

The light illuminating this viewer must, of course, be filtered to match Technicolor projection standards, for obviously one would get an erroneous impression of color if he viewed the pilot by a ruddy, low-intensity incandescent light instead of a white fluorescent.

Color of Lighting Important

Equally important is the color of the lighting used in photographing the matte-painting. Most Technicolor interiors are lit with special arc equipment which gives a light very closely matched to natural daylight.

Left, one of matte-shot photographic room, with observer of electric unit, with arc placed in focus, and camera close to lamp position. Right, photographing a matte painting in a scene from "Robin Hood."

If then the painting was photographed under ordinary Mazda lighting it would have a strongly red-orange bias which would be basically different from the natural coloring of the rest of the shot.

Our matte-shot camera room is equipped with S-M headlights, which are, of course, incandescent units. From our viewpoint, incandescent lamps are far more convenient for matte shot discrimination. So we fit our lamps with the special, high color temperature "CF" type globes, and special daylight corrective filters.

The result in Mazda light corrected to an acceptable match to Technicolor's daylight standard. It is necessary, however, to take special care to guard against changes in the color temperature of the globes, and against deterioration of the corrective filters.

With these precautions, making matte-shots in Technicolor is not particularly difficult. Variations in the color balance of prints seem to constitute the remaining difficulty, and this is of course beyond our control.

It is possible, however, to plan a matte-painting on the basis of a color pilot which, as a "wash" print, has not been printed in perfect color-balance, and find that when the shot is finally completed and the full print made a difference in printing color balance has affected your color matching.

Increasingly close coordination with the Technicolor laboratory, and the steady improvement in Technicolor practice are slowly minimizing this problem.

Technicolor Softness as Asset

In many phases of camerawork the slight tendency toward softness or decreased definition apparently inherent in Technicolor's three-negative method and



Bottom: setting built for "Elizabeth and Ivan." Center: drawing area matted out. Top: the completed matte-shot. (Kulergrensis from Technicolor news file.)

substitution technique printing has been depleted.

In making matte-shots, however, it appears to be a definite asset, for it gives us a better blend, and a more convincing appearance than does the more sharply defined monochrome.

Then, combined with DeLidgen's skill in painting his mattes in color, has made our many Technicolor matte shots surprisingly effective. It may seem like a poor agent's blarney to say so, but it is a fact that, as many unopposed observers have told us, matte-shots in color seem to convey an even greater illusion of actuality than they do in monochrome.

The possible combination of matte shots with other special effects methods, like projected backgrounds, rainmakers, and the like, are endless either in color or monochrome. Multiple rearing, for instance, offers valuable possibilities of making the live action at one take, other foreground action at another, and blending the two together by means of a matte painting.

Avoid Great Expense

In one recent production, for example, we utilized back-projection of a miniature as a background for the action of the principals, in the immediate foreground a separate take provided sun, and these two elements were bound together by a multiple-matted painting to form a composition which would have been both difficult and expensive to photograph by conventional methods.

As regards production economy, a recent routine shot tells its own story. The script required action on a high trestle of a logging railway. The nearest actual location of this nature would have been more than six hundred miles from the studio.

But a suitable railway bridge was found less than a dozen miles from the studio. Matte paintings changed this bridge into a much higher timber trestle, and replaced the background with typical north-country scenery.

The artist even transformed a convertible placed telegraph pole into a tall pine tree! The scene was quickly shot with doubles and while the matte-painter finished the shot the principals cranked the cleavages on a studio stage, with a simple bridge railing and a sky-backing for "location."

The resulting sequence was as convincing as if the action had been filmed on a distant location—and the saving in time, effort and production cost marked another routine step in the constant effort to slum economy in production without sacrificing production values.

Germany's motion picture industry, cooperating with the military and civil authorities, is making every effort to have the motion picture theaters in occupied Poland resume operations.



RESPONSIBLE LEADERSHIP

EASTMAN'S negative films—*Plus-X*, *Super-XX*, *Background-X*—have special features that more than meet every contingency. This ability is backed up by unmatched photographic quality and unvarying uniformity, the vital factors in Eastman leadership for over fifty years. Eastman Kodak Company, Rochester, N. Y. (J. E. Brulatour, Inc., Distributors, Fort Lee, Chicago, Hollywood.)

EASTMAN

PLUS-X

for general studio use

SUPER-XX

for all difficult shots

BACKGROUND-X

for backgrounds and general exterior work

Mrs. Zimmerman Makes Pictorial Diary of Prewar Europe

By George Blaisdell

THAT was at least an unusual experience, Mrs. Charles D. Zimmerman of the Los Angeles Camera Club. From the time she left her home in Los Angeles until she returned she consumed practically three months. She traveled by motor stages in automobiles to Quebec, a matter of a couple of weeks, and on June 26th sailed on the Empress of Australia.

She was accompanied by three of her four children. George is at Stanford and Suzanne and Charles are at U. S. C. A third son is a senior at John Burroughs High. As the three are active in their college work Mrs. Zimmerman planned a summer in which they should all be together. In the party also was Mrs. Fritz M. Fisher of Los Angeles. With the two sons taking turns in driving the family car they would be able to go and come as and when they pleased.

Mrs. Zimmerman was not unimpressed that in this respect she would be at a decided advantage in the pursuit of her favorite pastime—the taking of pictures. There would be no cut and dried itinerary. She would be subject to the beck and call of no one unless in agreement with her own family when she asked to stop the car every few miles.

And in that matter of taking pictures Mrs. Zimmerman really was expert. She had been taking them ever since the other children were young. And as they took on stature she took on skill.

As an earnest of her intentions in a painstaking way for the summer she

was taking along with her on the boat from Quebec to Europe a number of 4000 feet of Kodachrome, as she could not depend upon buying over there.

Two hundred feet of it were shown at the annual banquet of the Los Angeles Camera Club on the night of December 5. The title was "Holland."

Wins First Prize

The subject was awarded first color prize. Spending conservatively, it was beautifully done. It was not particularly in any one department or one phase of a motion picture that the subject excelled, but it seemed to be in all of them. Any amateur or at least the average amateur knows how easily one may make a slip, but apparently there was no time for such an accident here.

The filming of the Island of Marken, which was done in a brief half hour, was of a remarkable even quality—and that applies particularly to the photography. We are told that in Kodachrome the latitude of the photographer is less than that in black and white, that the exposure should be on the nose.

This exposure really was on the nose. The pictures were taken in and around the Holland towns of Vollenhove and Marken, characterized by a marsh peculiar to the locale. Certainly it was picturesque. The day was a Sunday, and the natives all wore no shoes. They were of every age, from infancy to old age. One of the most interesting se-

quences was of two seasoned old folks strolling along in front of the church. Like two surely arrests of another day, they walked up and down.

Mrs. Zimmerman said that whenever at one time she had used black and white exclusively, there never had been any doubt as to what she wanted once she had tried color. "There is a thrill in color," she declared. "What a difference it makes—whether you are working in black and white or in color—when you focus on a beautiful flowering bush? What you see with your eyes you may visualize on the screen. For me the black and white has no comparison with the appeal that color in color I think is color!"

"I took two black and white films which proved to be a total loss. That is, the color was so definitely outstanding they were lost by comparison."

Likes Simple Titles

"I had good fortune with my processing, good is final results. I think I at most had my mind waiting for the return of some of the films, especially three packages which I had forwarded from Monte Carlo to Rochester. I had five films processed in England, five in Berlin, three in Paris, and mailed twelve from Rome to Rochester. These latter were two months in getting back to Los Angeles."

Nor do a multiplicity of titles appeal to the photographer. When possible she enjoys showing her film to friends and verbally describing the scenes as they are unraveled. Her pictures really are edited from that point of view. It is her experience her friends so prefer to have it. They have the feeling, they tell her, of having taken a trip abroad or to the point portrayed on the screen. The camera used by Mrs. Zimmerman is a Bell & Howell 700. It has a turret head, with a J. V. Smith Taylor-Hobson 2 1/2 lens, a regular Taylor-Hobson 3 1/8 lens, a 1 1/2 Cooke which is used when light is poor. "I use standard lens when I can to secure sharp background," said Mrs. Zimmerman. "I think most people like to see what is in the background as well as what is in the foreground."

"I have a wide-angle 2 1/2 lens which comes very handy. In Germany I bought a 2-inch telephoto 2 1/2 Dallmeier lens made for a Bell & Howell." A Weston meter is employed on all pictures.

The first stop from Quebec, was England. Landing at Southampton, London.



The party—Charles Zimmerman, Suzanne Zimmerman, Mrs. Mildred Zimmerman, Mrs. Fritz M. Fisher, George Zimmerman.

*Mrs. Charles R. (Mildred) Zimmermann
in Breckenridge, Banff and Alps, finds
much fun and by the Miller camera*

Seaside, California

George Zimmermann of Breckenridge

*Charles Zimmermann, the brother of the
camera and tripod*

and the countryside were toured and a night boat was taken from England to Holland. Truly the gateway to Germany arrangements had been made for but a brief stop.

Bright sunlight prevailed while the camera was in work, but clouds prevented rain. Consequently what pictures were taken were "on the dead run." It was all to her later regret, however, for on various occasions she "lost awake" right in the middle of the fine shots she did not want for.

No Pictures on Shipboard

The tour extended to Northern and Southern Germany, Budapest, Switzerland, Italy, French Riviera and Monte Carlo, from which point films were forwarded. These arrived in Los Angeles a month after Mrs. Zimmermann's return. Then came France, the Grand Route des Alpes, and across the pass to Geneva. From Paris they drove to Cherbourg where in great anxiety they awaited the Emperor of Britain for the return to Quebec.

The Britain was due to sail on September 1, and Mrs. Zimmermann was particularly anxious to connect with the boat. She was assured later bookings were problematical as to passengers. However the Britain sailed on schedule Sept. 2. That was the day on which the Athena was sunk, to the north of them. Passengers were not notified.

The speedy vessel sailed 400 miles off of her course, zig-zagging with absolute blackout at night. Every passenger was carrying a lifebelt or official orders from the Admiralty. Asked if any pictures were taken on board, Mrs. Zimmermann shook her head in the negative.

"The situation seemed to be too serious to dramatize on film," she said. "I'd about I would like to have a picture of life on that boat for the six days' crossing, but we were not thinking in terms of motion pictures," she added.

Mrs. Zimmermann does her own editing. She is interested now in illuminated titles, which she plans to do for herself. She admires the results secured by professionals with the aid of an air brush and is considering the taking of lessons in the field of hand-painted titles.

She realizes the making of these is an accomplishment in itself—that there is much to be acquired in the way of skill—in painting the backgrounds and in the lettering. Already she possesses a creditable collection of her own water colors which she is mulling over.

Most men and women will rest quite



contended it they can put on for their friends' entertainment such examples of photography as Mrs. Zimmerman displayed the night of the Cinema Club's annual dinner, a few perhaps will strive to master in addition what may be described as an added art and a craft.

—passing on sets or water colors and hand lettering.

Mrs. Zimmerman is strong for her club affiliations. "I think joining the Los Angeles Cinema Club has helped me concentrate on accuracy, both in taking and in editing my pictures," she said.

NON-THEATRICAL GROUP DENIES THEATRE DEMAND

ATREND toward better understanding between the non-theatrical and theatrical film industries was foreshadowed in a statement released by the recently formed Allied Non-Theatrical Film Association, with offices at 1690 Broadway, New York.

The association took friendly issue with the action of the thirteenth annual convention of the Associated Theatre Owners of Indiana, which demanded that the film industry discontinue the release of pictures for 16mm. distribution.

"The Allied Non-Theatrical Film Association, while it respects the belief of exhibitors that the theatrical action picture is primarily an entertainment form, takes this occasion to point out that films and proprietors have other legitimate uses: education, instruction, advertising and constructive propaganda of various types," the statement said.

"These uses were not invented by the theatre industry. On the contrary, the theatre industry came into being because there was a demand for films and for types of exhibition which could not be met by the entertainment industry.

"The demand of 16mm. exhibitors that

no films shall be released for 16mm. distribution implies a denial of the important moral, social and educational influence which films, regardless of media, can exercise beyond the walls of the regular movie house. One of the perennial bugaboos of the theatrical industry has been the sponsored film and the 16mm. field has continuously served as a safety valve for this explosive possibility.

"It should also be noted that if the attitude expressed in the recent resolution of the Indiana State Exhibitors Association should ever prevail, the entire film industry would incur the deep resentment of thousands of school teachers, social workers, professionals, civic leaders and other groups which use 16mm. films for constructive, legitimate purposes of their own.

"It is the hope of the Allied Non-Theatrical Film Association that any abuses which may exist in the non-theatrical field can be eliminated by our organization and that some permanent basis can be found in the near future, for the harmonious co-existence of theatrical and non-theatrical film enterprises."

Los Angeles Cinema Club's Head for 1940 Is Ed Pyle

Edward J. Pyle, Jr., was elected president of the Los Angeles Cinema Club at the organization's annual banquet, held at the Hotel Mayfair, December 5. Other officers for the coming year included D. S. Kilgus, vice president and William High, secretary-treasurer. Retiring president James Mitchell acted as toastmaster, and over 60 members and guests attended.

The feature of the evening was the presentation of the prize-winning films in the Club's annual contest. Competition was divided into separate classifications for black-and-white and Kodachrome films, with three prizes awarded in each group.

Prize-winner in the monochrome group was "Building a House," filmed by Giles de Tonnacourt. This 44-ft. reel very completely detailed the building of a house from the initial sketches through to completion. Photographed aesthetically under conditions of weather and

lighting that were sometimes adverse, the judges pronounced this film an outstanding example of smooth and complete continuity.

Second place was awarded to "The Caldwins," a "casted movie" impression of unspooled happenings in a public park, filmed by Dr. Roy E. Grevstenborg, and described in detail in the May 1939 issue of *The American Cinematographer*.

Third place in the black-and-white group went to Dr. Harold Lincoln Thompson's "Tawny Tyke," a thoroughly appealing one-reeler of the career of a scotty. Expertly edited and cleverly titled, the film was assembled of scenes filmed over a period of several years, and was more than richly and interesting.

First award in the color group went to Mrs. Charles D. (Mildred) Zimmerman for her two-short film on "Holland." Beautifully photographed, and abounding in human interest touches not always found in amateur travel films, this film, which was only about 200 feet in length, left the audience awfully wishing for more—perhaps indeed in a club whose members are inveterate glass-fronters.

Second award in the color went to E. F. Chapman for his film, "Flowerland." In this Chapman took an admittedly hackneyed subject—flowers—and rendered them more interesting by a skillful combination of excellent Kodachrome camerawork and a dazzling display of lap-dissolves and similar optical transitions.

Third place in the color group was given to Charter member C. Boris Kenney for his film "Tomorrow's World." This film, dealing with the New York World's Fair, treated its subject capably and with such completeness that the maker's remark that it had been filmed in a two-day visit to the exposition seemed incredible, even when spoken by the club's energetic founder and consistent discerning mentor. W. S.

Los Angeles 8 mm. Members Celebrate Annual Dinner

The annual banquet, which replaced the December meeting of the Los Angeles 8 mm. Club, was held at the fashionable Elks Club, overlooking beautiful West Lake Park in Los Angeles.

After the dinner, and after comments and remarks had been made by the retiring officers, Alexander Leitch, the president, introduced the new officers for the year 1940. Elected at the November meeting, they were as follows: William Wade, president, A. J. Kerman, vice president, Lee Calson, secretary, William Miller, treasurer.

Gladys Cadavette, founder of the club and member of the Board of Governors, then presented Mr. Leitch with a pin from the members as a token of appreciation for his untiring efforts and interest in behalf of the club.

The main event of the evening was the showcasing of the winners of the annual contest, which was done by William Stahl, A. S. C. First prize went to William Wade for his very fine production, "It May Happen To You." This picture also was awarded the Horton vacation trophy, as the best vacation picture submitted during the year. Other prize winners were as follows:

Paul Cramer, "Conscience,"
Leon Sprague, "San Francisco Exposition"
Leo Calson, "The Lady on June Street" (one of ten reels).
Earl Janda, "Real Fear"
Al Leitch, "Oranges"
Dr. E. P. Baller, "Dead Riders."
Mrs. C. H. Taler, "Artist's Revenge."
Lewis B. Reed, "Watch the Bride"
A. B. Calson, "Inventors"
Alice P. Smith, "Santa Fe in Winter."
Jack Cornell, "San Francisco Fair"
George L. Johnson, "Alaska Vacation"
Arbepart-Lee—"Jungle Fever"

Through the courtesy of the Eastman Kodak Company, six of the prize-winning pictures were projected on the new Eastman Model 16 Projector. The meeting adjourned at 11:30 p. m.

LEO CALSON, Secretary



*"The Master is a distinct
advance in photo technique"*

says

JOSEPH RITTENBERG, A.S.C.



***"All scenes match perfectly in exposure and
printing density when this dual-range meter is used"***

"To be valuable to a Hollywood cinematographer, an exposure meter must be as dependable under the extreme low-key lightings possible on the sound-stage with today's fast film, as it is under the brightest glare of the California sun on location," continued Mr. Rittenberg. "My new Weston Master is the first meter I have found with this dual-range performance. It is dual-range in another way, too, for it combines professional accuracy and amateur simplicity—a very valuable feature in our work, where every minute's delay can add hundreds of dollars to a picture's costs."

"Using this new meter has helped me simplify one of the worst problems of modern studio camerawork. Often while I am photographing the dramatic parts of a picture, other cinematographers are filming dance numbers, location exteriors and other important sequences. They may have methods of lighting and exposure different from mine—but yet all of our scenes must match perfectly in exposure and printing density to make a photographically successful production. Thanks to the Master, they all blend together perfectly. You are to be congratulated on building such a fine instrument." Weston Electrical Instrument Corporation, 598 Frelinghuysen Avenue, Newark, New Jersey.

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AUTOMATIC "HIGH LIGHT, 'LOW LIGHT" SCALES—provide greater scale length with utmost readability, no confusing, congested numbers at either end.



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Rugged instrument movement and hermetically sealed photo-cell assures dependability—improved calculator dial with speeds to 500 Weston.



**WESTON *Master*
EXPOSURE METER**

Obtaining Increased Illumination for Fine Grain Film Recording

By O. L. DUPY and JOHN K. HILLIARD

THE current use of fine grain positive stock for recording and printing of Variable Density film records has brought about demands for increased illumination due to the fact its speed is 1/4 that of ordinary positive.

A mercury lamp which has a rating of 85 watts at 256 volts has been used in recent cases. However, in some cases greater illumination is required than that which can be obtained at its normal rating. To produce this greater illumination the outer jacket was removed from the lamp and a new one which had an inlet and outlet for air was provided.

By means of a blower sufficient air was passed through the tube to keep the quartz tube below the melting point. Under this condition it is possible to obtain from two to three times more illumination with a power input as high as 100 watts.

Automatic Control

It was found that the best operating condition was with an amount of air which reduced the voltage on the lamp down to 140 volts and the current went to 2 amps.

To stabilize the illumination, because of slight variation in voltage from the

supply of air temperature, a method was finally adopted which gave an automatic control over wide ranges of air temperature and supply voltage.

This method consists of using a small series D.C. motor placed directly across the lamp terminals in order to operate the blower fan. The amount of air delivered then is proportional to the square of the voltage across the lamp.

If the supply voltage tends to decrease, the motor slows down delivering less air, and the lamp heats up decreasing the power current to keep the voltage constant, and the illumination is unchanged.

If the voltage rises, the motor speeds up, and forces more air to cool the lamp, and the voltage goes down and the current runs to a normal value to maintain a constant wattage and illumination. It is possible with such a regulator to vary the current and voltage over a wide range to maintain a given wattage.

This is due to the non-linear characteristics of the blower-motor which when combined with the lamp characteristics permits stable operation at any wattage. The electrodes do not evaporate for currents below 2 amps.

Thus it is possible to operate at 256 watts with 100 volts air drop and 2 amp current or 150 volts air drop and 1.33 amp, or at 300 watts with 150 volts air drop 2 amps, as required.

The note is that it is used reduces the efficiency between power input and illumination somewhat, but since absolute efficiency is not important it is possible to use the lamp over the indicated latitude with reasonable life.

Since the mercury arc lamp when started draws a very high current and has an arc drop around 15 to 25 volts, depending upon the temperature, a non-linear resistance or current limiter is necessary for automatic starting.

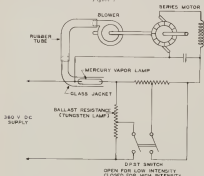
The ordinary incandescent lamp is sufficiently non-linear, so that it can be used for this purpose. By this method when the arc drop is low, the voltage across the incandescent lamp is high, and when the arc voltage builds up the incandescent lamp voltage goes down, allowing the arc to absorb the required power.

Where a wide range of current is required, the lamps are changed in size so as to allow the proper current.

In order to keep the D.C. supply voltage as low as possible, the lamps are started by external means. A high frequency buzzer or spark coil is held near the lamp to break the arc down. In this way a 200 or 350 volt D.C. supply can be used.

Otherwise, a 500 to 600 volt supply would be needed in order that the arc be started. At 350 volts the arc then can be started by static electricity such as can be obtained by rubbing a piece of glass with silk. Figure 1 shows a schematic set up on the equipment.

Figure 1



Agfa Adds Darkroom Outfit

Agfa Ansco Corporation announces the addition of a new darkroom lamp and filter outfit to its line of photographic equipment items.

The new outfit includes an Agfa 311 by 4 1/2-inch Sublite Lamp housing and socket, one A3 Green Filter, one A6 Yellow-Green Filter and one A7 Red Filter. The filters, which are all 3 1/4 by 1 1/2 inches in size, are designed to provide maximum visibility with complete safety when correctly used and fitted with a standard 35-watt frosted Marsh lamp.

WHEN IT'S

Speed
YOU WANT ...

SUPER-XX (16mm.)
SUPER-X (8mm.)

If you really wanted to film that proverbial "black cat in a coal bin at midnight," you'd undoubtedly load with Cine-Kodak Super-XX Film (or Super-X, if you're an "Eight" enthusiast).

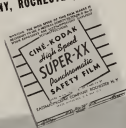
Chances are, you're more interested in getting really good, usable shots of crowd indoor scenes, or records of indoor sports events, or night street scenes, or outdoor shots in poor light.

Cine-Kodak Super-XX is your 16 mm. film. It has speed, standard speed. But it also has brilliance, excellent tonal gradations, minimized grain, and true panchromatic. Super-XX is the easy answer to tough movie-making problems.

For users of 8 mm. equipment, Cine-Kodak Super-X is the speed film. But its speed is balanced by truly fine grain—an essential in successful 8 mm. movies. Add thoroughgoing photographic quality, and the success of Super-X is easy to understand.

For speed plus quality, rely on Super-XX (16 mm.) and Super-X (8 mm.). Be sure you have a roll or two on hand, so that the shots that only speed films can achieve can be yours—beautifully and with the ease that signifies mastery.

EASTMAN KODAK COMPANY, ROCHESTER, N. Y.



Simple Changes Improve Camera Equipment

By EDWARD KEARNS, Assistant Cameraman

RIGHT now all of us in the industry are being asked to cooperate in finding ways to make production more efficient—in finding ways to save time and money. As many people have pointed out, there are many little ways in which we can effect savings of time and money which, while small in themselves, none the less can amount up to form very welcome economies.

As a practical assistant cameraman who has had the pleasure of working with many different directors of photography, on every sort of film from major studio "superstars" to amateurs, I'd like to point out a few such little details which could, at little or no cost, add greatly to the speed and convenience of routine camerawork.

Just as a starter, let's take one of the most familiar matters of every day operation: focusing. The Mitchell camera, which most of us use, is equipped with a focusing telescope which is turn has an eyepiece adjustable to the individual eye.

That's fine—but what happens when, as is usually the case, each of the three men in the crew who use it have eyes that focus differently?

Each May Change

If I, as the assistant, adjust the eyepiece to suit my eye, it is very likely that it will not be focused correctly to suit the eye of the operative cameraman. So when I have the camera focused on a scene my operative can't accurately check the shot until he has taken time to refocus that eyepiece for his own eye.

Then if the director of photography wants to take a last minute glance through the camera, to make sure that both the operative and I have done our work correctly, some time out of his he, too, must delay a moment or so while he readjusts the eyepiece to his own eye!

All told, it is only a loss of a dozen seconds for each of us but it happens on every set-up—usually on every "take," and it can prove into a really noticeable total of lost time and motion in the course of even a single day's shooting.

There are several ways of avoiding this. On my last picture, for instance, I scratched some crude calibrations on the eyepiece tube of the camera so that all I needed to do was to give the tube a

quick pull or push to the mark, and be sure that the eyepiece would be pretty well focused for whatever of my fellow workers wanted to look through the camera.

Some cameras—among them I believe the new French Eclair, described in the September issue of this magazine, and the 35th Century Fox Camera built by Greiner Lutzke—have eyepieces that are calibrated much the same way as the scales of telescopes or binoculars, with a center line for average eyes, and uniformly marked "plus" and "minus" calibrations for eyes nearer or farther sighted than average. That's a step in the right direction!

Saving Time and Bother

But since this matter of looking through the camera is one that is gone through hundreds of times each day, wouldn't it be worthwhile to fit the eyepiece with some sort of a semi-automatic, pre-set control? That way, it could be set, let's say, so that it would normally be focused to suit either the operative or the assistant.

But by depressing a handy lever beside the eyepiece the director of photography could snap the system into perfect focus for his own eye. Releasing the lever would automatically snap the focus back to what was right for the

operative eyes of his operative and assistant. A lot of time and bother could thus be saved.

Now in much the same way let's consider what the assistant is up against in the last few seconds before a scene is shot. In those last seconds, when everybody is on edge to get the take started, the assistant runs a tape-measure to the point of focus—usually the principal player.

Then he checks the calibrations on the lens to make sure that the focus setting agrees with the measured distance. If necessary, he re-sets the lens to that measured distance.

That is all very well. But in many instances—especially in the closer angles—he finds that the lens-calibrations and his tape-measure don't agree. Let's say we are making a closeup. The measured distance is 5 feet 10 inches. But the focus-calibrations on the lens take a standing broad-jump from a marked 6 feet to 5 feet—or in many cases, they even span 5 feet and the next mark is for 4 feet!

That means that to set the focus, the poor assistant has to guess. First he sets the lens to 6 feet. Then he resets it to the next mark—4 feet. Then he twists the mount to approximately half-way between the two; that should be pretty close to 5 feet.

When Everybody's Tense

Now he takes another guess and sets it off at a point roughly two-thirds of the way between the imaginary 5-foot point and the actual 6-foot mark. If he's lucky, he should have the lens focused pretty close to 5 feet 10 inches. If he isn't lucky he's just a bum.

And, word you, he's doing this in those last few seconds before the cameras start rolling. The time when everyone is a bit tense for the take, and when everyone wants technicalities crowded out of the way so the troupe can make pictures! Even the technicians tell him to hurry up and get out of the way.

In some few studios, bungs are arranged so that they can be done on an accurate scale, outside the blimp. But in many more, the job has to be done on the lens itself, inside the blimp, if there are external scales, they are either inaccurate or uncalibrated except for screwing "fellow-faces" marks.

Now on the lenses most frequently
(Continued on Page 12)

IN "Charlie McCarthy, Detective," as in all of these pictures in which Charlie is given the leading part, it seems to be the regular story. Charlie or rather his sponsor, Edgar Bergen, A.S.C., takes the leading part and no one else seems to have much chance.

Charlie here sings a song which succeeds in making something of a sensation. The contents of Charlie's trousers have been monkeyed with. His eyes seem more expressive than formerly. In fact his whole appearance is changed—and it must be said to be in the ink of even more attractiveness, of more allure.

Then again it may be added that it is possible George Robinson, A.S.C., paid added attention to Charlie—as it has been hinted since the beginning of screen history and possibly by jealous fellow-players that cameramen have been known to be singularly lucky in their exposures when photographing the more fortunate of God's creatures.

Composition Is Simple —Perhaps

(Continued from Page 24)

Interior shots are just as easily handled. The next time you are watching an interior scene photographed by an A.C. cinematographer notice how a small object, a small piece of furniture, a photograph, a bowl of flowers or a few books have been used to coincide with the mood of the scene and improve its composition, but these cinematists do not litter a scene with useless objects. They have the principal thing in the scene distinctive and isolated.

When human figures are added, they should harmonize with the mood of the scene and should not look directly into the lens, as they will appear to be looking out of the picture instead of into it.

The most common fault with beginners is that they do not hold the camera level when photographing a scene that contains a long horizon. Another fault is the desire to include too much in one scene. This is accentuated when the scene is panoramized. The eye and brain are confused as they wander from one point to another trying to seek understanding.

Main Point of Interest

The main point of interest should not be in the exact center of the picture and should have lines leading in its direction. Unnecessary detail should not crowd a scene. If the foreground is interesting keep the background subdued, and if the background is to be the main point of interest leave the foreground subdued.

The main point of interest is emphasized by lighting it strongly. It should have the greatest contrasting tones and should be the point where all lines lead. There should not be two highlights or subjects of equal value in the one scene and the highlight should be placed near or in the main point, which should be kept away from the edge of the picture.

In photographing land as seascapes, never have the horizon divide the scene in halves. If the sky is interesting keep the horizon low in the viewfinder. If the foreground is to be featured have the horizon near the top of the picture.

Photographing Processions

Clouds are a great advantage, as they break the monotony of a light sky and add to the beauty of the scene. If a moving object is to be followed keep plenty of space in front of the action. Do not have the subject appear to be running out of the picture and try to pan across at the same speed as the moving object, keeping it in the same position of the viewfinder. Otherwise the speed of the action might appear to vary and possibly will not look convincing.

Do not photograph a procession or

traffic at right angles to the camera. Have moving objects approach the camera from an angle. A low camera angle will make an object appear larger than a high camera angle.

A close analytical study of good professional films will show that the cinematographer has carefully studied camera angles to get material effectiveness. He uses lighting to suggest moods in sympathy with the emotional appeal of the shot.

Novice cinematographers use angles that have a curbed appearance. They force

Shoots Dastardly Villain; All Actors' Voices Battle

The villain in a fast-moving Western movie rode hot on the trail of the famously retreating hero. Their guns spat fire as their frothing steeds raced on. Suddenly the audience in the State Theater at Vivian, La., took a sharper interest in the proceedings as cost picture rose in his seat, raised a long-barreled weapon and fired point-blank at the terrible villain.

Such is the record of a new high in dramatic realism achieved by motion picture sound. But the story ends happily after all, almost. It turned out that the gun was a "BB" rifle, and so the damage to the screen was limited to a tiny hole.

But the RCA Photophone loudspeakers behind the screen didn't come off so easily. The pellet lodged between the aluminum throat and the case of one of the high-frequency horns, so that henceforth all the actors seemed to have a rattle in their voices.

E. H. Stumpert, of RCA Photophone's Dallas Office, is the field engineer serving the "State." He proved to be the real hero of the day by responding in short order to an emergency call from Exhibitor B. R. McLendon and reseat-

ing the "BB" pellet. No damage to the equipment developed, and as Mr. Stumpert retired and the show went on an audience to full participation in the subject matter. Professionals use more cleanup than amateurs. They realize that such scenes must have a dramatic appeal that compels the viewer to look, and, having seen, to understand but unfortunately it is not always convenient for the amateur to take a camera close to an object as a ploy to get the desired close-up that is wanted. It is at this point of misunderstanding that the amateur realizes the necessity of telephoto lenses and the advantage of a turret head on a camera.

ing the "BB" pellet. No damage to the equipment developed, and as Mr. Stumpert retired and the show went on

Government Sponsors Film to Prevent Animal Injury

Improper handling of livestock is imminent to market has been costing stockmen and packers about \$12,000,000 a year. Thousands of hogs, sheep, and cattle die or are injured annually in shipment, largely from preventable causes. To show how this loss may be reduced the United States Department of Agriculture has released a two-reel sound motion picture "Do Unto Animals," portraying proper methods of shipping livestock, both by rail and by motor truck.

The film was sponsored cooperatively by specialists of the Bureau of Animal Industry and the National Livestock Loss Prevention Board, and produced by the Motion Picture Service of the Department's Extension Service. It is available in both 16 and 35mm. widths and requires approximately 21 minutes for projection.

Responsible organizations and individuals may obtain the use of the film on application to the Extension Service, U. S. Department of Agriculture, Washington, D. C.



When photographing moving objects, have them approach the camera at an angle.

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Party Gets Rough

(Continued from Page 4)

The mother, who had deserted the infant, obtained a job and goes hunting for the boy—she wants him back. She gets on the trail of the teacher and fellow-bus to the school. That morning the teacher, before the world had turned a complete blackout, had formally adopted the boy. The mother, on her arrival told of the filial circumstance, is overwhelmed.

It's a black outlook, for the man and the woman. The man is obdurate, with the responsibility of fatherhood, the hanging of clothes and milk. The woman is without claim to her child, which she had expected to receive for the asking.

There's a way out of the dilemma, however. One is which each of the three involved is a winner. The father is adoption is a teacher. The mother is not but has no tag. There's no legal or precedent to marriage for which the father are giving. It's a dead open and shut case.

But, the clerk leaves every one in a most happy, even tearful, mood. It is a natural as well as a happy ending, especially, happy after the nervous and determined sit-down strike has been informed the hard-hearted mistress of the school has released the teacher

and the baby and the mother all well remain.

All the industry authorities have the sense and the mind to preserve that naturalness—or must they declare with straight faces it to be the law of God and man that an unmarried screen mother is to be forever debased from the blessing of a screen mother—that today is still the day of the Scarlet Letter?

We shall see.

IMPRESSIVE indeed is EKO-Radio's "The Hunchback of Notre Dame." It is impressive because of its magnitude, equaling and probably exceeding that of any of its predecessors in the area covered—and thereby people—in the conviction and sincerity and authority of its actors, and in the greatness and the conception and the execution of the story.

The Hunchback himself is a masterpiece. It is easy to exploit superstitions, and frequently, they are exploited. But in this instance running back to the beginning with some care brings to mind to make-up that exceeds that of Charles Laughton in sheer repulsiveness in its initial effort upon the beholder. How that feeling changes as the plot progresses, from repulsion to sympathy, is a major part of the story.

No one who is in ordinary health and

who is interested in the making of moving pictures should miss seeing "The Hunchback." It is true there are one or two instances where the lash is brought into play where it will be painful to the sensitive.

It is now five days since this reporter witnessed the picture. He has seen no other films in the meantime. "The Hunchback" is practically as vivid now in his memory as it was the morning following the showing.

There are as many great characterizations—Laughton's is but one. There is Sir Cedric Hardwicke, fantastic justice, a cross between Jekel and Hyde, recurring at times of that other Hugo character Javert, the stern right arm of the law we find in "Les Misérables." Tom Mitchell, who to the public at large has come so fast during the last two years but who has been accumulating, piling up, that marvelous ability of his, as the king of the beggars; there is young Maureen O'Hara, whom Laughton brought from the other side of marvelous appeal as Esmeralda.

Then there is Walter Hampden as the Archbishop, fully as good as one would expect the Shakespearean veteran to be. Harry Davenport as King Louis XI, Edmund O'Brien, the splendid lyrical making his best screen appearance; and a host of others.

William Dieterle directs the production. A goodly resume of all the grace that has been bestowed upon others pro-

merely belongs to him—for even if he may not have been in the first instance responsible for it he did pass it—let it stand—and consequently was a part of it.

And Joseph H. August, A.S.C., with his photography and the vast areas of space it was his responsibility to illuminate and reproduce on the screen as well as the closeups—another of the vicissitudes of the camera who like old was improved as the years grew added experience. And Vernon L. Walker, A.S.C., who with his special effects adds so much to the beauty—and the horror—of the production.

An Admiral of the United States Navy made the remark forty-odd years ago in speaking of a naval battle in which he had been a part "There's glory enough for all."

Which is true indeed in the present instance—but space forbids.

CHARLES G. CLARKE, A.S.C., has privately printed an account, one of the rare first accounts, of the talking motion picture. The book is titled "Edison's Invention of the Kinetograph," by Antenna and W. K. L. Dickson, being a reprint of an article appearing in the Century Magazine in 1894.

Mr. Clarke was in possession of the original story. Inquiry among several sources for locating a duplicate of it brought out the fact it was not available. It was his conviction the story was sufficiently worthy to justify him in going ahead and making it accessible to those who were interested. He arranged for the printing of 250 numbered copies.

The book will be reviewed in the February issue.

THERE has just been laid on our desk "U. S. Camera 1918." It is a most worthy book and fitly celebrates the 100th year of photography. It has over 300 pictures in black and white and color by America's leading photographers, both amateur and professional. It is limited to 30,000 copies and its sale price is \$2.95. It is edited by T. J. Maloney. One of the outstanding features is a section devoted to the two years' work Edward Weston did on a Guggenheim Fellowship, the best accompanying the pictures being by the hand of Chas. Wilson Weston, his wife. The book will be reviewed another month.

ACCORDING to the very interesting story by Earl Miller, chief electrical engineer RKO Radio Pictures, which will appear in February, the lead pipe is reported in 1922-23, at the time "The Hunchback of Notre Dame" was produced by Universal, was 17,500. At that time Mr. Miller was chief gaffer at Universal on the picture in question.

At the present time RKO-Radio's average was 11,500 on the same picture. The reasons for the employment of less

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than one-third of the "lens" that you may be using, but they will be interesting. Of course, the first thought is of faster films, and that of course is one there are others.

Some of these may be a difference in lights as well as a faster and different kind of film. It goes without question there must have been a great advance in the means and methods of speed and economy in the making of special effects and process work in the last sixteen years, all of which is within the knowledge of Vernon Walker, A.S.C., who specializes at Radio in that sort of work.

Kodak Exhibit Adds Dates

Three more cities have been added to the tour schedule of the 1940 Kodak Exhibit, making a total of thirty-five book-ings. In each city, the exhibit will include a large black-and-white salon, panels of local exhibition prints, color exhibits, equipment displays, and special evening shows featuring color motion pictures and a Parade of Color from the 1939 Kodak World's Fair exhibit.

The Baltimore show, Feb. 2-5, will be held at the Enoch Pratt Library and the Dayton (Ohio) show Jan. 27-29, at the Biltmore.

Camera Technique Dominates Filming Results

(Continued from Page 11)

A closeup camera you there faster. However, if action is present, a dolly shot may be better. If a man is standing by a table and walks across the room to a chair, a dolly shot will permit you to film a medium shot continuously, whereas the distance he travels would force you to take the scene at an extreme distance to cover the entire scene.

Dolly shots often require a change of focus during the course of the shot and you must determine the speed at which the lens barrel must be turned to maintain critical focus. Rehearsal will help you, as usually the focusing has to be accomplished without you being able to view the distance scale on the barrel.

A well planned travel shot can show action scenes—places in editing, but do not keep the camera moving all the time. If you are doubtful about the dolly shot, eliminate it entirely and use fixed position. Every movement of the camera must have a definite purpose behind it, and if it is done without a good reason you are just retarding the tempo of the picture.

Vary Movement

Angle shots are usually described as unusual views of a subject, but they are adds life and interest to the picture. Low angle shots lend a sense of strength to your actor and gives the illusion of height and dignity. Dramatic effects are given scenes with odd angles, but the unattractiveness of the angle usually demands that only a short length of it should be used.

Do not film at an extreme angle, as

you will only confuse your audience, but by slightly tilting the camera or varying the shots from eye level occasionally, you will get many impressive shots that give zest to the picture.

Good camera technique also calls for a thorough knowledge of your camera speeds and the proper time to use them. The speeds are given for a purpose in spite of the fact that most amateurs seem to disregard their importance. Most cameras are equipped with film speeds of 8-12-16-20-24-32 frames per second.

The amateur will usually take a shot or two for slow motion effect and disrupted the purpose of the other speeds. High speeds (which give us slow motion effects) are advantageous for sport events or any actions that you may wish to study closely.

Also, slow motion is necessary when filming miniature sets as the increased speed of the film will do away with the jerky actions and render an illusion of great size and weight. Your chance to obtain a lot of footage of some activity can be lengthened by shooting at slow motion.

Comic situations are often given more punch by speeding up the action on the screen. This is done by the use of the 12 frame per second speed. Your hero will fight harder and faster at 12 frames than 16 frames and the force of the blows are increased. Use your judgment on film speed choices and don't forget to compensate the exposure when making a change.

Watch Closeups

It must be remembered that the finder of the camera is not in the same position as the lens, and although this slight difference is not noticeable when filming long shots, we must correct it when taking closeups.

Some cameras have the finder directly over the top of the lens and the allowance must be made by slightly tilting the camera upwards. This is necessary only when the subject is within six feet of the camera.

A small arrow in the finder guides you in framing your subject. When you keep the subject below the arrow you are adjusting for parallax and keeping the lens field in line with the finder field. Other cameras require a slight compensation for parallax by moving the camera sideways.

This is necessary when the finder is placed on the side of the camera. When no allowance is made for parallax while filming closeups, you will cut off part of the subject at the top side, according to your type of camera.

Watch the professional screen for camera movements. Unless the action necessitates a dolly shot or panaram, the camera remains stationary and the actors supply the actions. The world's foremost cinematographers are filming your entertainment, and if you are successful in emulating their work to the best—the 35mm and such—the focus calibration begins to spread out increasingly as the focus shortens from 16 feet

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best of your ability you will readily become an advanced amateur.

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Use Tripod

Camera technique is that element which produces a smooth, visual narrative. It can be likened to a gift which is presented in a pleasing manner, adding to the pleasure of the recipient. A well-balanced scenario, properly exposed and edited, will be greatly weakened by improper handling of the camera.

Unsteady scenes are not easy to view, and it is paramount that all scenes be filmed with the use of a tripod. It is wiser to reshoot a scene if it is not desirable or to cut it from the reel, replacing it with some variable action.

To excel in any undertaking, whether it is for personal gain or a hobby, one must have a thorough knowledge of the basic fundamentals of that undertaking. It is strongly recommended that each amateur cinematographer affiliate himself with an amateur motion picture club in his city, and in this way associate with other amateur moviemakers.

An exchange of film and ideas is most beneficial in improving your own filming and discovering your weaknesses. If an amateur will strictly abide by the fundamentals and basic rules of motion picture technique, his filming results will improve and increase his enjoyment in this fascinating hobby.

By consistently checking your own work and using the best of any constructive analysis you may receive from other sources you can polish off all rough edges of your filming activities and produce screen results that place

your films in the prize winning class. Then, too, always remember that a good picture is never made in a hurry.

Television Broadcasts On 16mm. Product Now Showing

Regular television broadcasts of industrial as well as other motion picture subjects are now being made with live broadcasts on a regular schedule from the Don Lee Broadcasting Company in Los Angeles.

Typical industrial films transmitted recently by the use of 16mm. sound prints are "Helpful Henry," a comedy from the International Harvester Company; "Hawaiian Harvest," a thirty-minute educational film from the California and Hawaiian Sugar Refining Corporation; and "Trees and Men," a forty-minute picture from the Westchester Timber Company, these being pictures produced by Dowling and Brownell of Hollywood.

Eastman Issues Projector Case with Tripod for 16mm.

New convenience in the projection of 16mm. motion pictures with the Kodascope Model EE, Series II, and the Kodascope Model G, Series II, is afforded by a projector case with folding tripod legs, just announced by the Eastman Kodak Company.

The case is designed to eliminate pre-show confusion and supplies makeshift projector supports. It is a particular boon to projectionists who travel and to those who must show movies before large groups. At home it offers a more convenient and satisfactory support than the usual card table or taboret.

The case holds the projector and a separate compartment on the side of the case houses the tripod legs. When the case is in use as a projector stand the tripod compartment makes a convenient shelf, for extra reels and other equipment.

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Studying Photoelectric Exposure Metering

(Continued from Page 21)

We have also noted that if the material proportions of bright and dark areas in a scene depart from a prescribed ratio, the Scene Brightness Range will be shifted to right or left on the H & D curve, thus departing from an ideal exposure.

A limited amount of shift to right or left can be tolerated with a Scene Brightness Range of 1-40 being recorded on a film having a Film Exposure Range of 1-228.

Perfect Computation

However, suppose that we have a film with a gamma of 2.0. This is a high contrast in comparison with the previously considered film with its gamma of 0.70. An H & D curve for this film would appear something like that shown in Figure 3.

Here the Film Exposure Range is only 1-40. Now if we want to record on this film a scene having a Scene Brightness Range of 1-49 it can be appreciated that only a perfect computation of exposure will do. The exposure must be the ideal one previously considered in this article or there will be either underexposure at one end of the Scene Brightness Range or overexposure at the other end.

Natural color films such as Kodachrome has a high contrast, the gamma being approximately 2.0. Hence this film has an H & D curve comparable to that shown in Figure 3. So exposures made on Kodachrome cannot stand any departure from the ideal exposure.

Perhaps this will explain why people who have used exposure meters with apparent success on black and white film have experienced difficulties when attempting the same procedure with natural color film. This indicates that a device working on a more accurate principle than the conventional exposure meter is needed for natural color work.

UNIFORM AVERAGE DENSITY NEGATIVES VS. UNIFORM PRINTING EXPOSURE

Another point of interest is the following: The conventional meter if carefully used produces negatives all having the same average density. A snow scene all full of brilliant highlights (comparable to Case V) will be recorded with the same average negative density as a scene taken in a dark forest (comparable to Case I).

Since both negatives have the same average density it is evident that one

must be printed very lightly to get a bright print which will represent the original scene. The other must be printed very heavily in order to get the dark effect of its original scene. Thus,

entirely different printer settings must be used for the two scenes.

Now if the exposures had been determined by having the mid-point of each Scene Brightness Range coincide with the mid-point of the Film Exposure Range as in the ideal exposure, we would find one negative to appear somewhat dense, the other to appear somewhat thin. Both would be printed with the same printing exposure.

The dense negative would then reproduce on a print the brilliance of the snow scene. The thin negative would reproduce on a print the darkness of the forest scene. In motion picture work all scenes made by an ideal exposure method could be printed with a constant printer setting.

How can Ideal Exposures be consistently made for every type of scene? Well, to begin with, some type of exposure determination that ignores the relative proportions of bright and dark areas in a scene must be used. A method that determines the mid-point of the Scene Brightness Range would be desirable.

Ideal Exposure

This has been attempted by some with the following scheme: A large gray card having a diffuse reflection factor of about 12 or 13 per cent is secured. The reason for this reflectance percentage is that 12.7 per cent is about half way, in a geometric series, between 2 per cent and 80 per cent, our Scene Brightness Range limits.

If an exposure of the gray card image could be made to coincide with the mid-point of the Film Exposure Range, then it follows that the mid-point of the Scene Brightness Range has coincided with the mid-point of the Film Exposure Range, and the Ideal Exposure is obtained.

To achieve this result the gray card, about 1 foot square, is placed at the location of the photographic subject. The meter is held close to the card so that it will be affected by light from no other source. Then a reading is taken. This serves to determine the value of the mid-point of the Scene Brightness Range.

An exposure determined from this reading will give proper exposure to all brightness values in the scene according to their position in the brightness range above or below the gray card brightness.

Since the reflection factor of the gray card is a constant, the above described method is actually an indirect method of measuring incident illumination. The

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meter readings from the gray card will be high or low depending on whether the incident illumination is high or low.

Remarkable Uniformity

Some analytically minded operators have taken advantage of this fact to eliminate the gray card entirely. Their method is to turn the meter around so that from the position of the principal subject it faces the source of key illumination. In this position the incident illumination is directly measured. Of course some adaption of the meter is necessary before this can be done.

Those who have taken this step have found a remarkable uniformity in the printing qualities of the resulting negatives.

Thus it appears that a meter to measure incident illumination has certain marked advantages over those meters which measure reflected illumination. However, there are some problems that are involved in the design of the incident illumination type of meter. These problems, and the features of an ideal type of meter will be discussed next month in the third and concluding issue of this series.

SUMMARY OF PART II

1. If a given scene has a proportion of 14 per cent high reflectance and 86 per cent low reflectance area the conventional exposure meter will give satisfactory exposure readings.
2. Meter readings on scenes which show some departure from the proportions noted above will be tolerated in the exposure latitude of black and white film.
3. Scenes which show a marked departure from the proportions noted above must have the meter readings compensated by the camera operator. Scenes having a small relative proportion of high reflectance area require an exposure less than that indicated by the meter. Scenes having a large proportion of high reflectance area require an exposure greater than that indicated by the meter.
4. In natural color photography any departure from the prescribed proportion of light and dark areas in the scene requires compensation of the meter reading as indicated in paragraph 3 above.
5. Negatives produced following conventional exposure meter readings all have the same average density, regardless of brilliance or darkness of subject matter in original scene. To reproduce effect of brilliance or darkness in the print a great range of printing exposure will be required.
6. An exposure meter which directly

measures incident illumination appears to have interesting possibilities. A further study of this type of meter will be made.
(TO BE CONCLUDED)

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The Hibernating Camera

(Chicago Cinema Club Bulletin)

Do you have a hibernating camera in your household? You know what we mean, one of those cameras that covers its sprockets and pulls in its claw with the first blast of the cold weather? Yet, some of our best movie-taking possibilities will come up during the next four or five months. Unusual opportunity is at stake for you not only because of extra chances to take indoor movies with complete little stories or plots, but unusual also because the variety in your film offerings as a result of new indoor and winterize films will add spice to your projection program that your friends and others will notice quickly and favorably.

Peep up, now! Honestly, how long is it since you took any snow pictures if at all? Have you taken any sleigh-rides, any skating action, any ice-boating, any skiing, or any straight outdoor snow scenes?

Have you ever taken a walk along Lake Michigan's rocky shore (ought here in Chicago), seen the beautiful sea formations created by the waves, wind and spray and have you finished that little hike with pictures of the g.f. (girl friend)?

And, indoors, have you anything taken inside at all?

Why not start planning a movie right now for Christmas, take some shots early leading up to the grand holiday, perhaps get the Holiday spent all around you, in the downtown shopping districts, at church, among rich and poor alike, everywhere.

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Simple Changes Improve Camera Equipment

(Continued from Page 38)

used—the 50mm. and such—the focus calibrations begin to spread out increasingly as the focus shortens from 10 feet or down. And it is in just that range that the great majority of our studio work is done. It is in that range, too, where minor inaccuracies in focus are most harmful.

Wouldn't it be possible, then, to provide some sort of auxiliary focus calibrations for these most commonly-used settings? There is no need for elaborate scaling; but if there could be definite calibrations of each foot from 50 feet down, with an intermediate set between these calibrations to indicate with reasonable accuracy where each 6-inch point fell, the assistant's work would be rendered faster and more accurate.

Fast Film Products

The same is true of diaphragm calibrations, too. Until fairly recently about all that was really necessary was to have clearly recognizable indications of the maximum apertures, f2.2, f2.5, or whatever might be the case—and of the smaller apertures—f5.6 and smaller—used outdoors.

But today we have fast film products which have brought with them a habit of stopping down the lens to a greater or lesser extent an interior scene.

Suppose, with such film, your director of photography decides to shoot at f3.2. Many lenses may be calibrated to something like that f2.2, f2.8, f4, f5.6 and so on. Between that f2.8 calibration and the next mark, f4, there is a lot of room, and it is up to the assistant to guess at the correct point to set the lens at the prescribed f3.2. The possible margin of error is close to 100 percent—at least equal to the 18 exposure-increase of a .35 neutral density filter!

Of course it would be foolish to expect every possible intermediate lens-setting to be calibrated on a normal lens mount—especially when one thinks of the reticence of any noted cinematographer who, in a case like this, might have been expected to tell his assistant to set the lens not at f3.2, but at f3.1876!

But would it not be both possible, and an excellent safeguard, to provide some suggestion of where the normal intermediate stops are? Let's say, in this case, a dot to mark f3, another dot for f3.2, a line for f3.5, and another for f4.5, and so on. Only the range from wide open down to about f4.5 would need to be given these added markings, and, as I have said, a dot or a line would be enough.

All a good assistant really needs is some slight indication of such key settings. But it hardly seems fair to ask them to guess almost blindly as they must now, on so vital a question as exposure when the accuracy of a scene

may be dependent upon not judgment but a mere guess.

Finally, let's look at the rear of our camera. The adjustable shutter on a Mitchell is controlled by a lever traveling along an arc. All different points on this arc are little holes into which a spring-loaded pin drops, to lock the shutter at the indicated aperture.

Assistant's Responsibility

Making panning and dolly shots outdoors we may often begin a shot in the sunlight, with the shutter set to 90 degrees. Then as we move into the shadows, we open the shutter to, say, 150, 170 or 180 degrees.

Doing this, the assistant must often adjust the shutter with one hand while he follows focus with the other. As a result, he has to do the shutter-changing by touch.

To simplify this, most of us will slip a bit of match stick into the desired hole, so that we can simply swing the shutter-control blindly until it brings up against the crude stop. Then we know the shutter is open or closed to the correct degree.

But makeshift stops, like most improvements, are not always dependable. They can drop out at the most embarrassing moment—and sometimes they break off between takes. The result is more guesswork and more accidents.

Wouldn't it be a good idea, therefore, to make these stops of metal, attached in some way to the camera, so they couldn't be lost or moved. For instance, why not have two little metal stops shaped to slide over the same arc, and fitted with spring-loaded locking pins like the regular shutter control?

Ordinarily, they could be swung out

of the way, at the extreme ends of the scale. But if we want, say, to close the shutter to 90 degrees, the right-hand one can be swung in and locked with its metal pin in the 90-degree position.

Then if we want to open the shutter to 180 degrees the other guide can be swung in to mark that position. With them in place, adjusting the shutter becomes a simple matter of moving the control lever between two positively marked extremes.

You don't have to look; you can be sure nothing can slip out of place or break. Again a piece of hasty guesswork is eliminated, and with it a troublesome if common operation that sometimes is made quicker and more certain.

Speedgun For Flash Shots Available For Agfa Memo

The scope of the Agfa 35mm. Memo Camera now includes synchronized flash-bulb pictures by the availability of the Agfa Memo Speedgun, especially designed and fitted for use with the Memo Camera.

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Provision is made for extension wiring to additional flash lamps, for a safety catch to prevent accidental exposures and for adjustment of both reflector position and synchronization control for different sizes and makes of flash lamps. The new Agfa Memo Speedgun is obtainable through regular photographic dealers and sells for \$14.50.

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